



THE
CYCLOPÆDIA;
OR,
Universal Dictionary
OF
ARTS, SCIENCES, AND LITERATURE.

PLATES. VOL. II.
BASSO RELIEVO — HOROLOGY.

THE
CYCLOPEDIA;

IN
THIRTY VOLUMES.

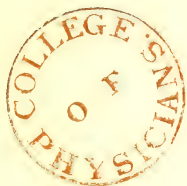
ARTS, SCIENCES, AND LITERATURE.

BY
SAMUEL JOHNSON, ESQ.

THE
CYCLOPÆDIA;
OR,
UNIVERSAL DICTIONARY
OF
Arts, Sciences, and Literature.

BY
ABRAHAM REES, D.D. F.R.S. F.L.S. *S. Amer. Soc.*

WITH THE ASSISTANCE OF
EMINENT PROFESSIONAL GENTLEMEN.



ILLUSTRATED WITH NUMEROUS ENGRAVINGS,
BY THE MOST DISTINGUISHED ARTISTS.

PLATES. VOL. II.
BASSO RELIEVO—HOROLOGICAL.

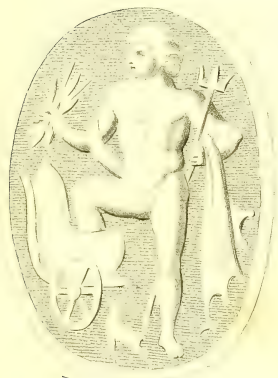
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In Egyptian Hieroglyphical Sphinx.



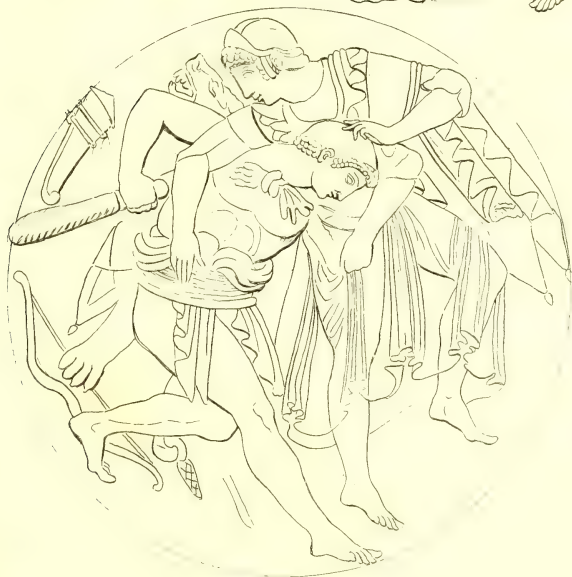
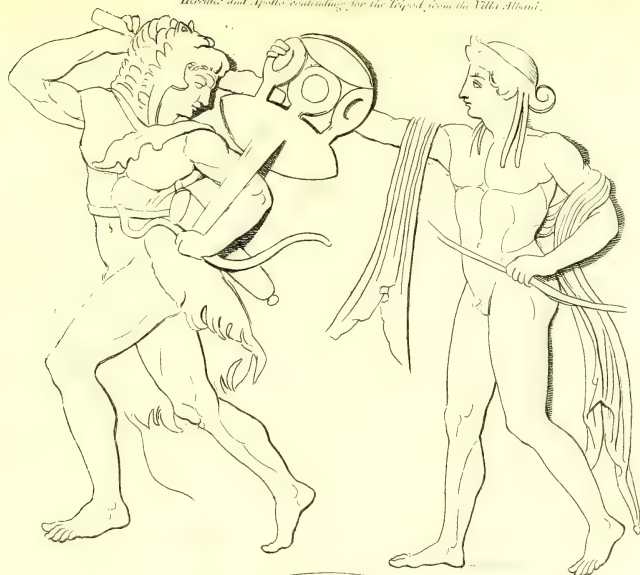
Aladdin, Prince of Persia, and his attendants.



BASSO RELIEVO.

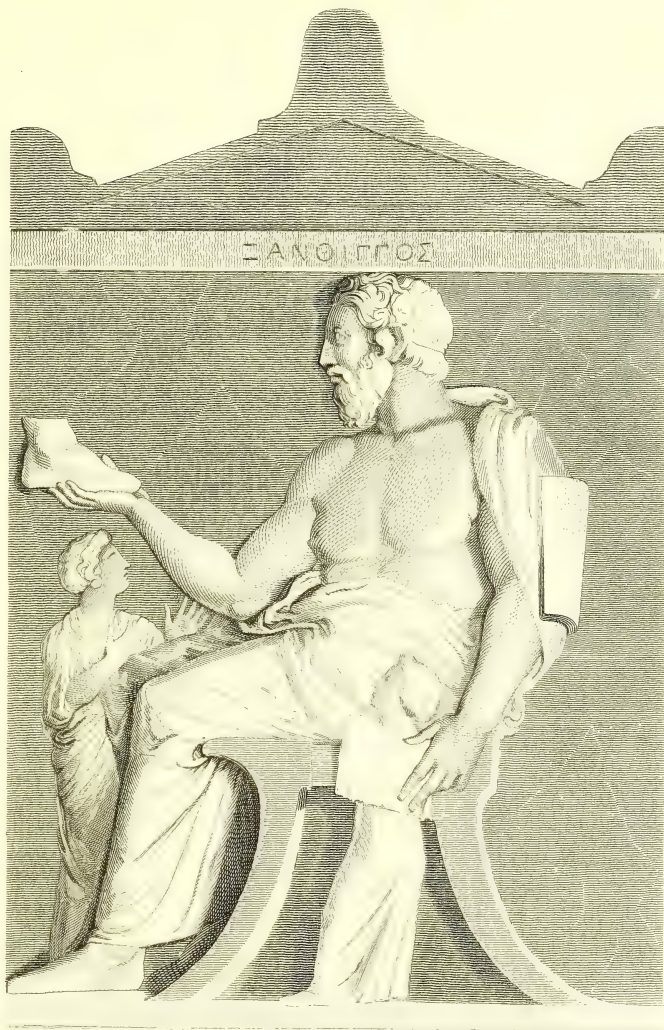
Marble and Apollo contending for the Tripod, from the Villa Albani.

PLATE II.



Marsyas and Apollo contending for the Tripod, from the Villa Albani.

THE TOMB STONE OF XANTHIPPOS FATHER OF PERICLES.



*Brought from Athens by Dr. Askew
In the Possession of Charles Townley Esq^r.*



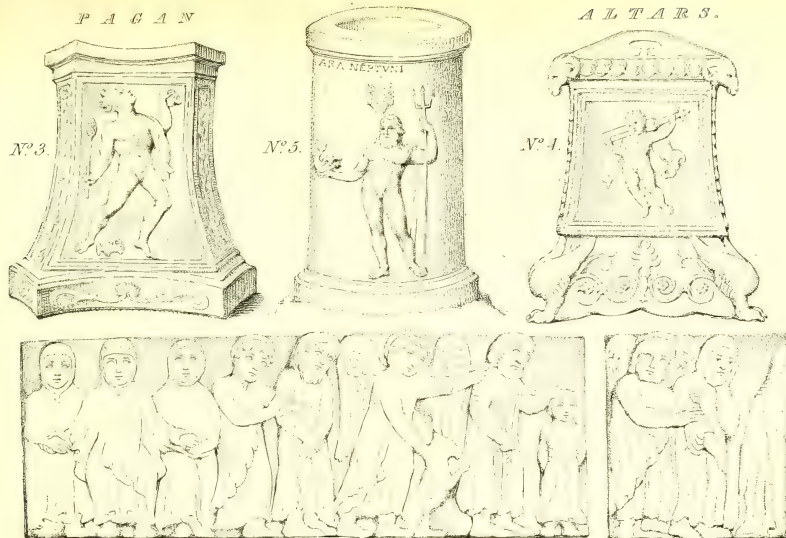


Fig. 1. — Basso-relievo round a Capital in the Cathedral of Cambray

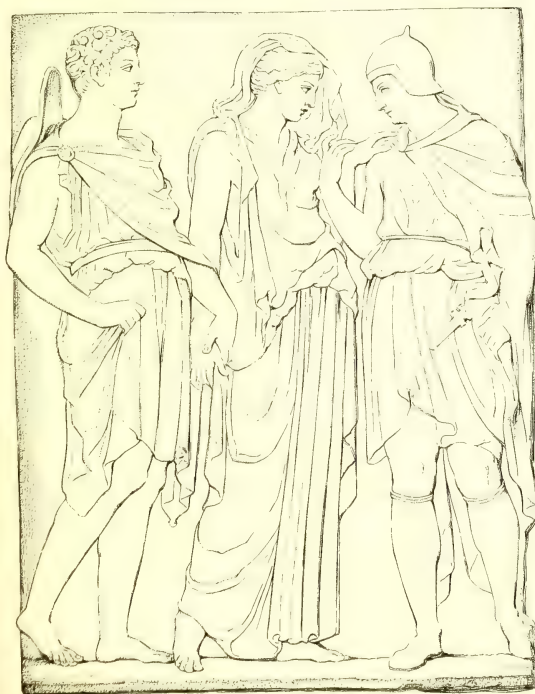
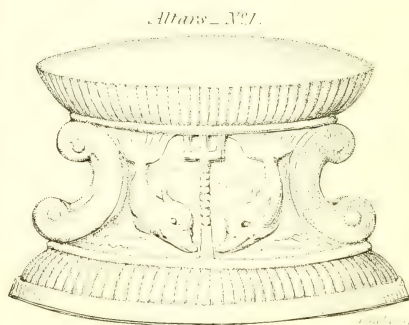


Fig. 2. — Basso-relievo of Zethus Antiope & Amphion.



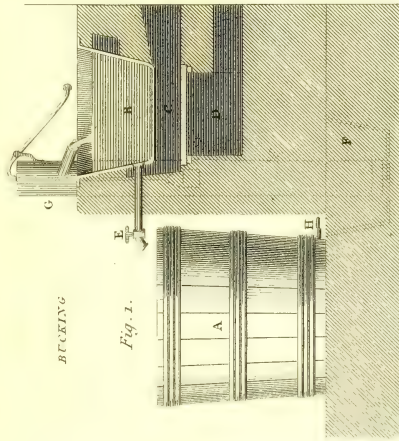


Fig. 1.

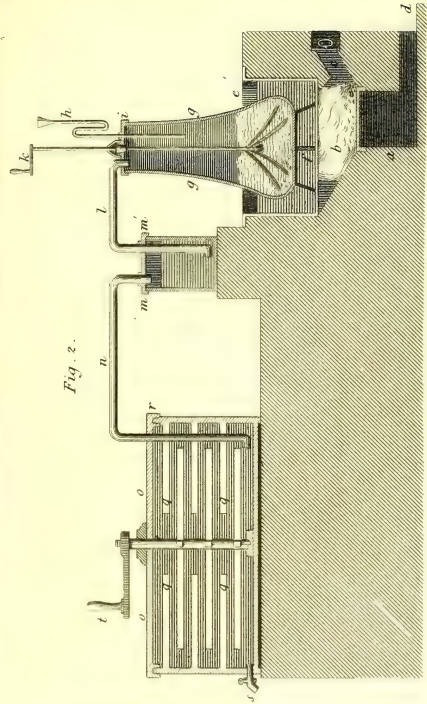


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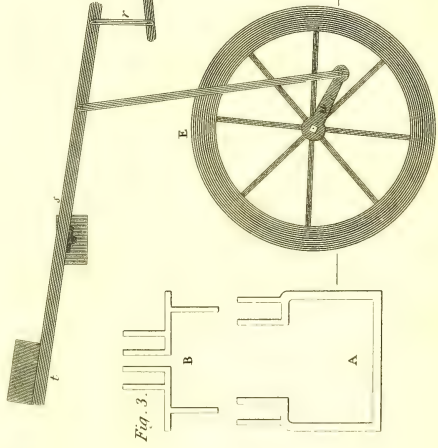


Fig. 3.

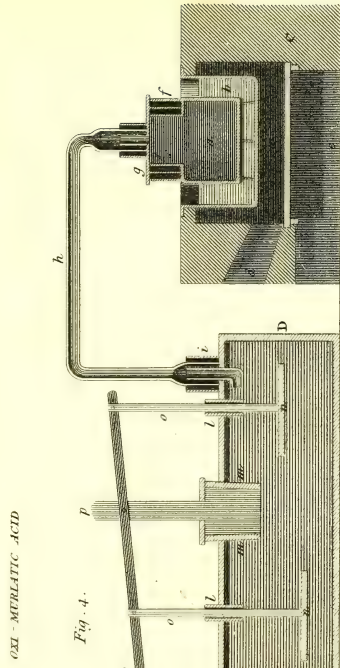


Fig. 4.

OXI-MURATIC ACID

BLEACHING.
WASHING & CLEARING.

Fig. 2.

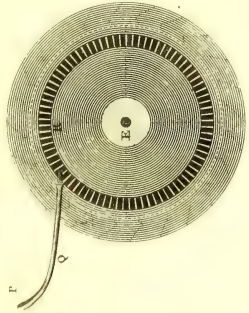


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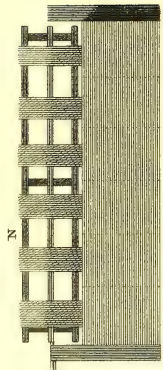
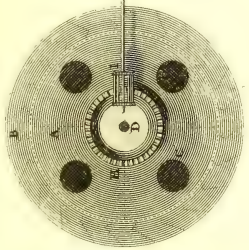


Fig. 4.

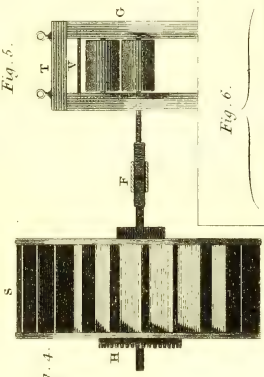


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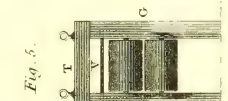


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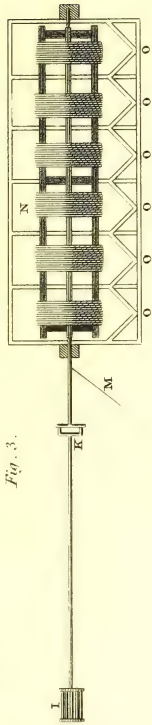


Fig. 6.

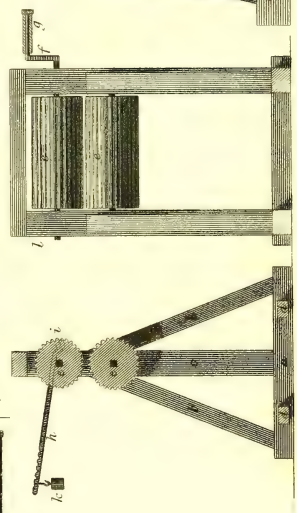
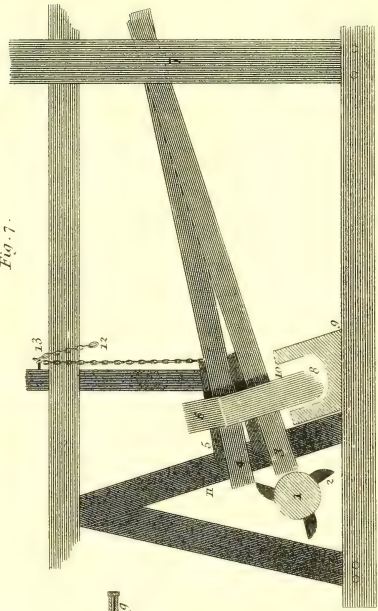


Fig. 7.



DRYING.

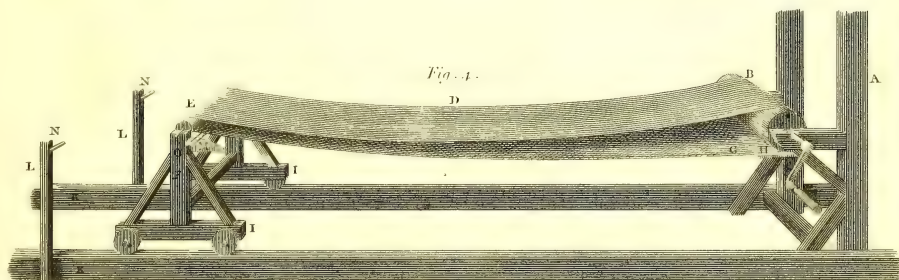
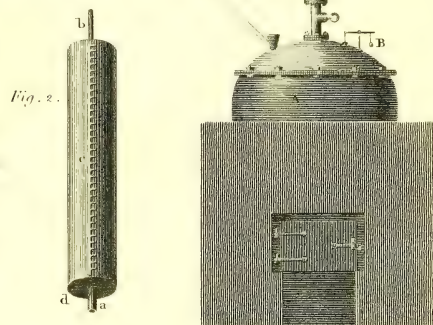
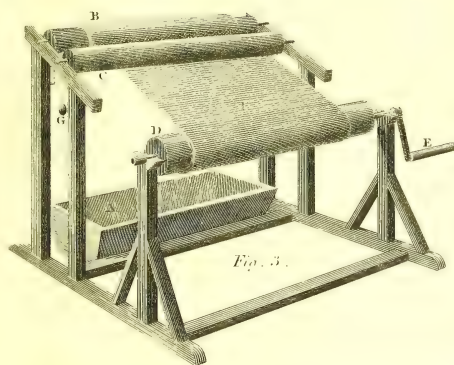
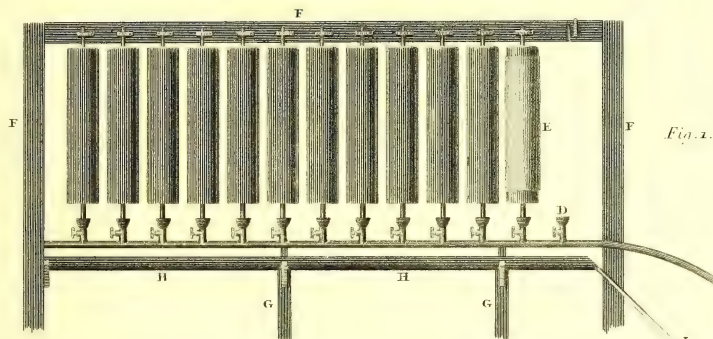


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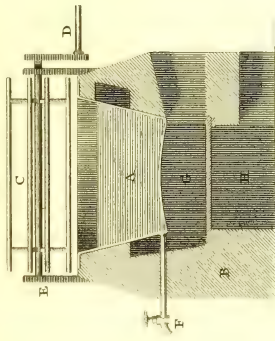


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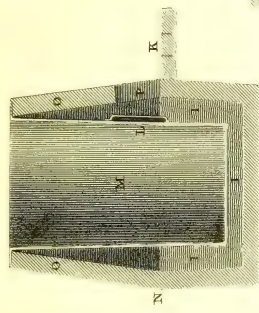


Fig. 3.

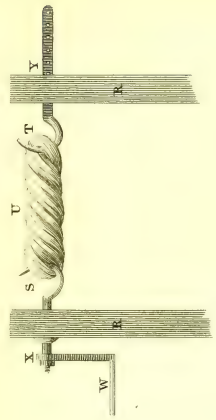


Fig. 5.

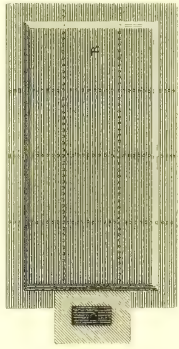


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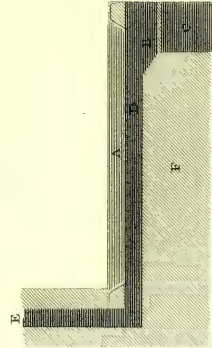


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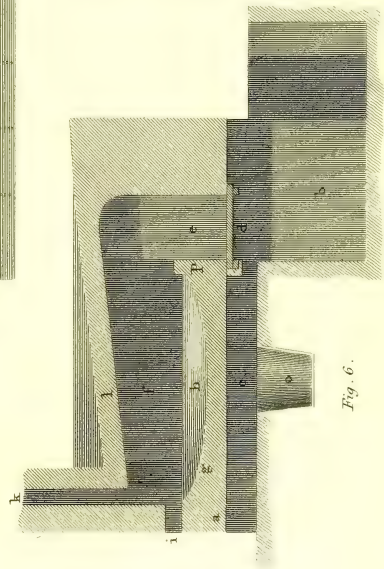
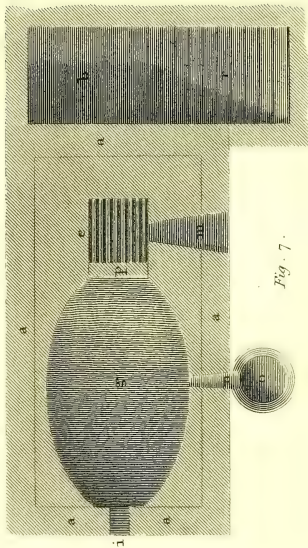


Fig. 7.

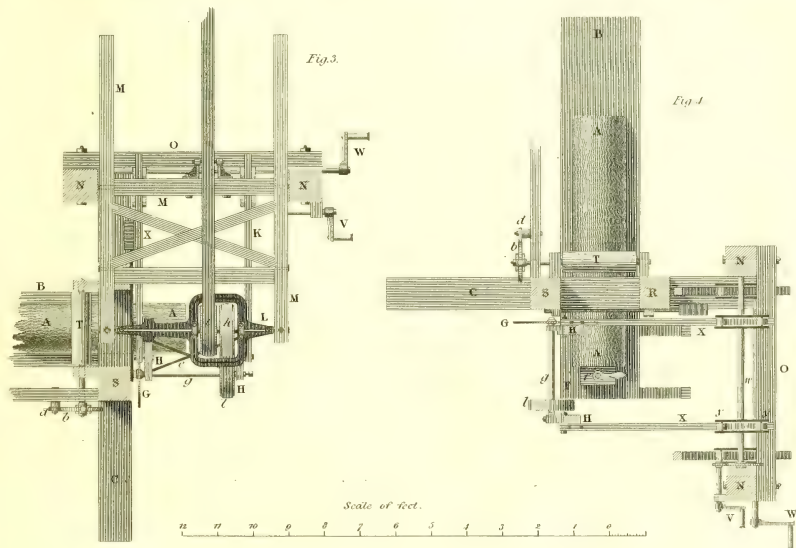
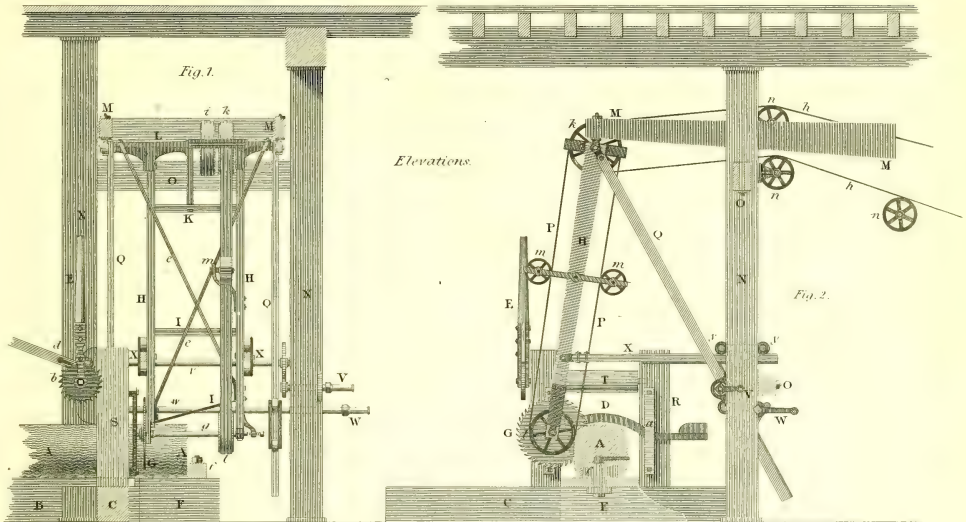


MACHINERY.

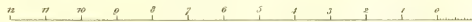
PLATE 1.

BLOCK MACHINERY at PORTSMOUTH.

Sawing Machine.



Scale of feet.



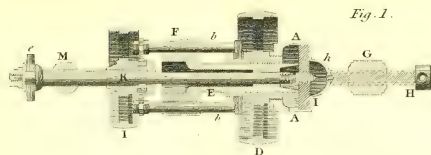


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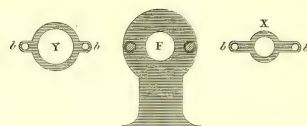


Fig. 3.

Fig. 2.

Crown Saw.

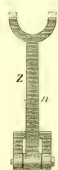
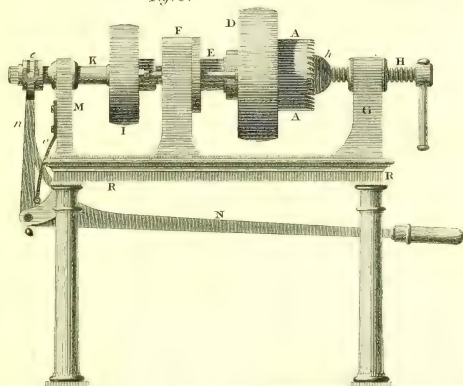


Fig. 9.



Fig. 4.

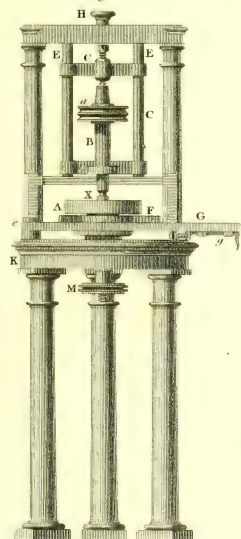


Fig. 6.

Cooking Engine.



Fig. 8.

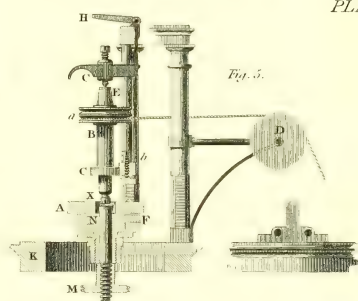


Fig. 5.

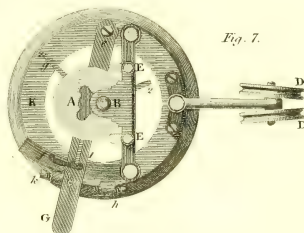


Fig. 7.

PLATE B.



Face turning-Lathe & Riveting Hammer.

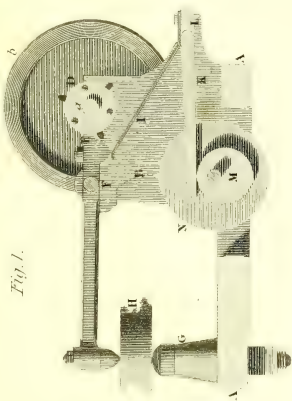


Fig. 1.

Fig. 3.



Riveting Hammer.

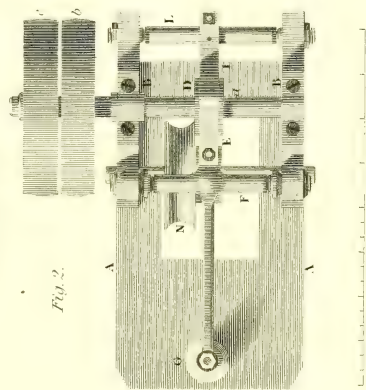


Fig. 2.

Lathe.

Fig. 3.

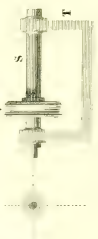
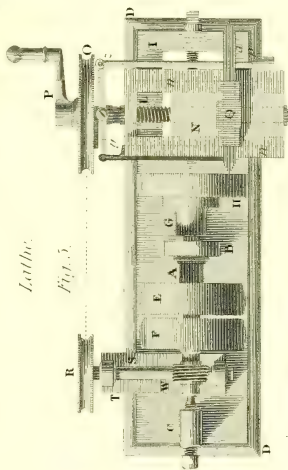


Fig. 4.

Fig. 4.

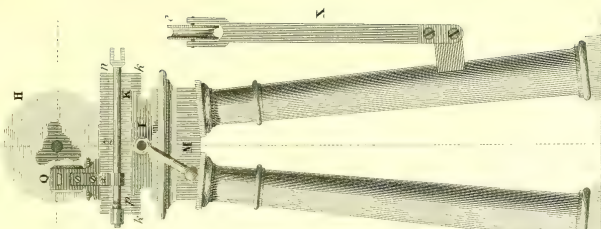
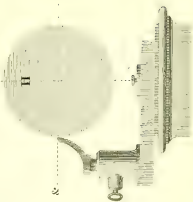


Fig. 7.





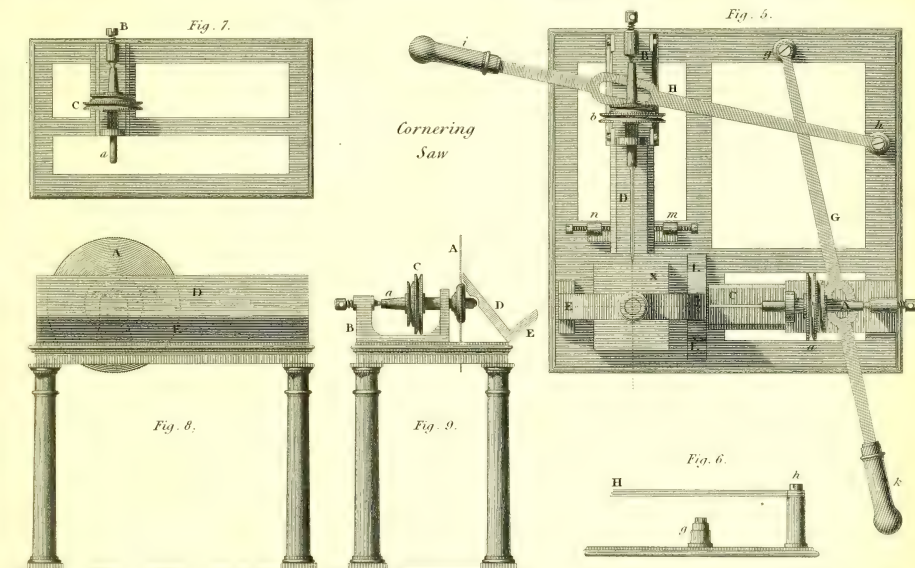
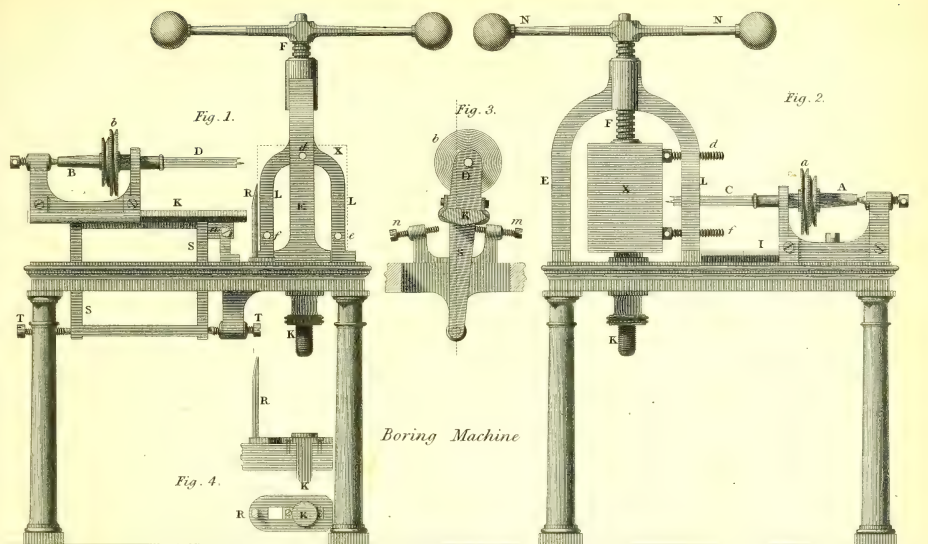
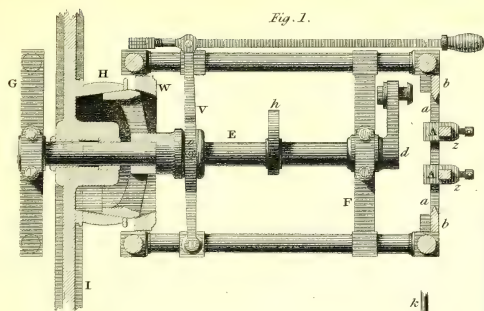


Fig. 1.



Mortising Machine.

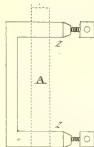


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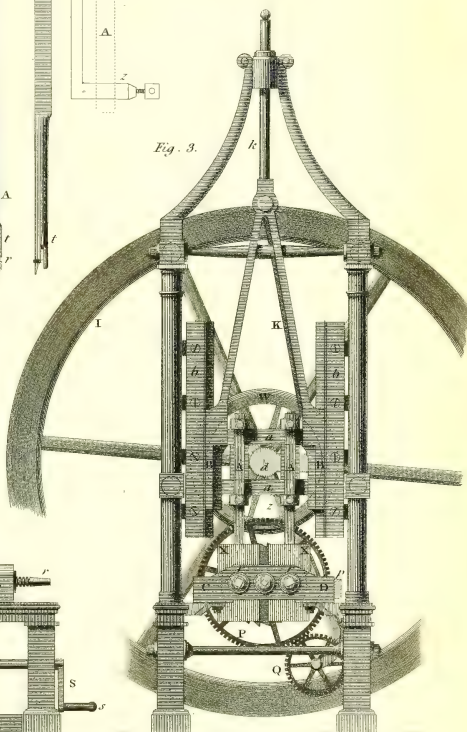


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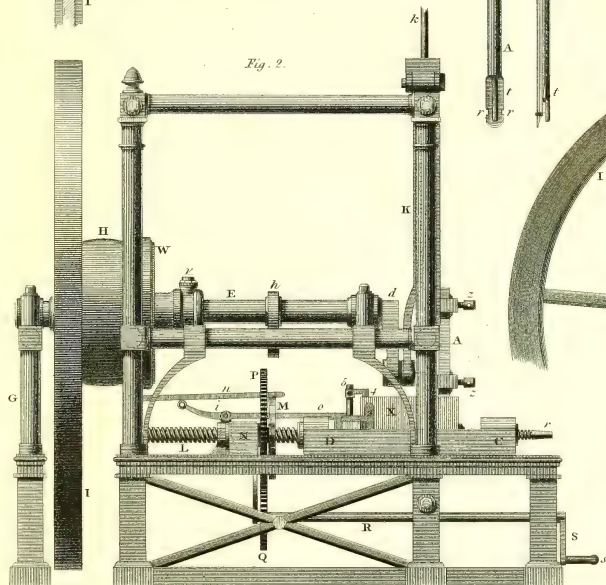


Fig. 4.

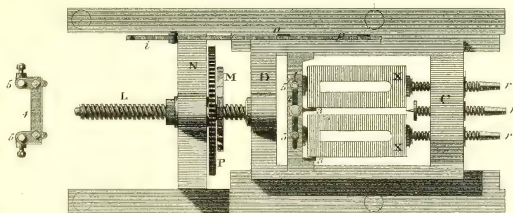
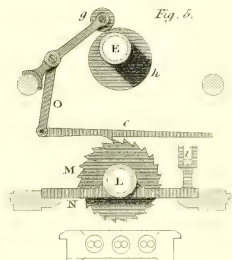
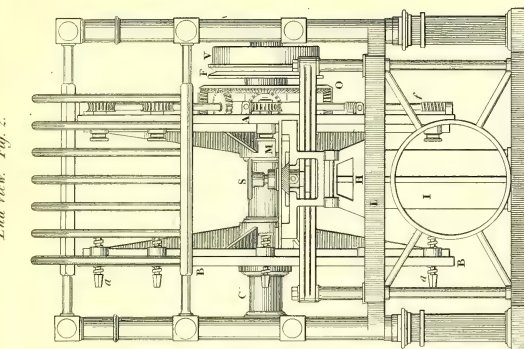


Fig. 5.



SHADING ENGINE.

End View. Fig. 2.



Elevation Fig. 1.

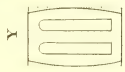
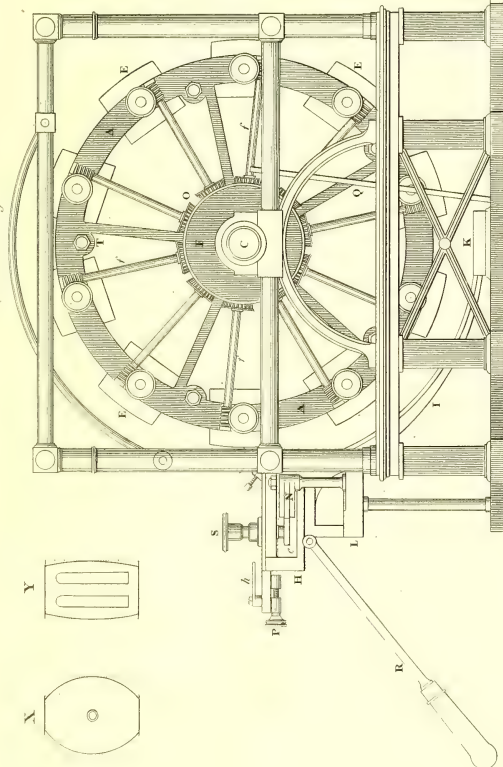


Fig. 3. Plan.

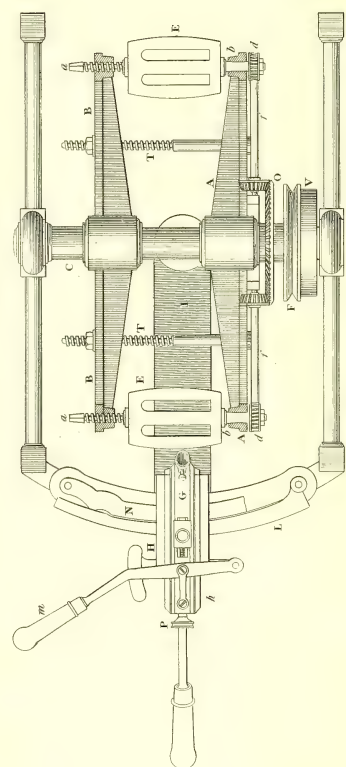
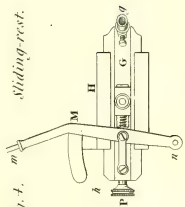


Fig. 4. Sliding rest.



Elevation Fig. 5.

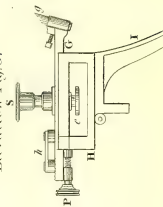


Fig. 1.

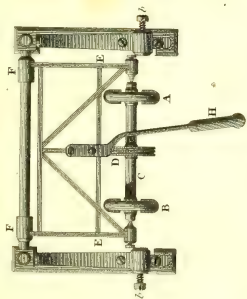


Fig. 3.

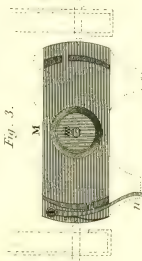


Fig. 4.

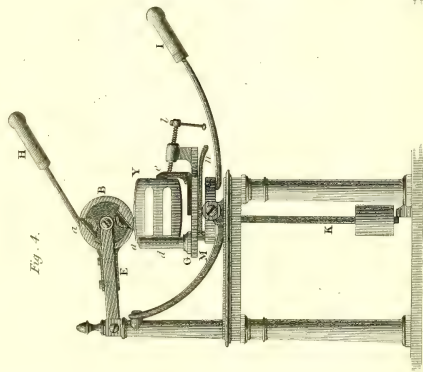
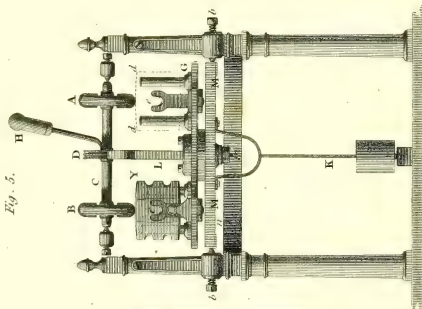


Fig. 5.



SCORING ENGINE.

Fig. 6.

Machine for Making
Dead Eyes.

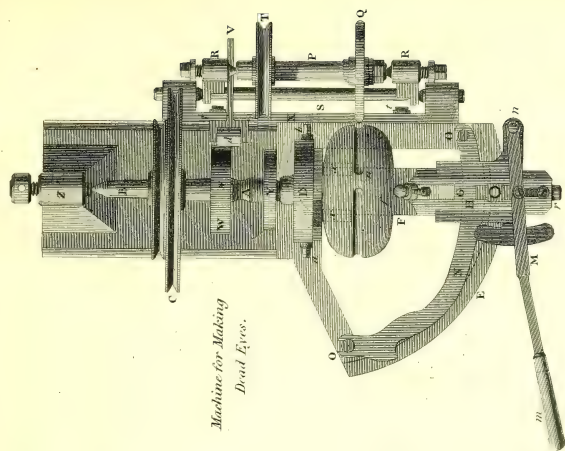
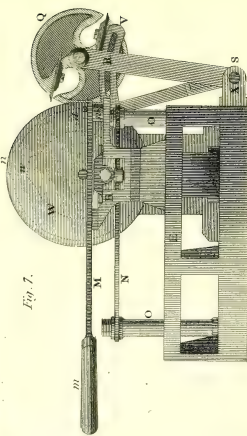


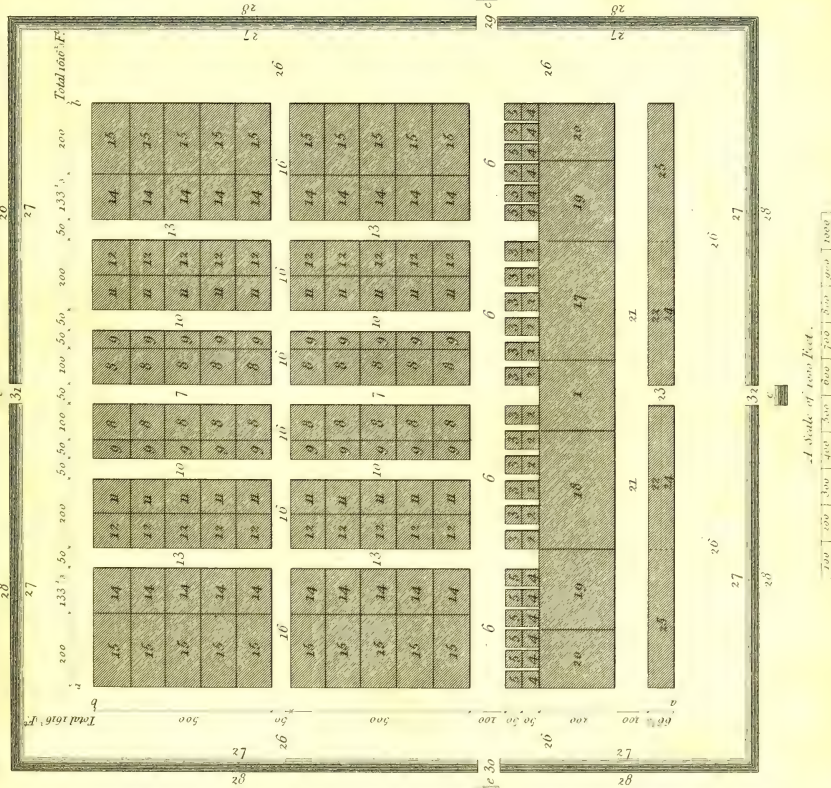
Fig. 7.





EXPLANATION AND REFERENCES.

- 1 The Praetorium, or General's ground set apart for the Consul containing 40000 Roman square feet.
- 2 Ground behind the tents of the Tribunes for their Horse, Bactra of Bactrian, Buphras, &c.
- 3 Ground where the tents of the Tribunes were pitched.
- 4 Ground behind the tents of the Praefecti of the Allice for their Horse, Bactra of Bactrian, Buphras, &c.
- 5 Ground where the tents of the Praefecti of the Allice were pitched.
- 6 A crys- street 200 feet wide called Principia from which the encampments of the cavalry and infantry both of the Roman legions and of their Allice had their baggage and or commence- ments.
- 7 A street 50 feet wide between the Roman Horse.
- 8 The Horse of two Roman legions in ten troops each.
- 9 The Tents of two legions in ten Maniples each.
- 10 Two streets 50 feet wide each between the Tents and Principia of two legions.
- 11 The Principia of two legions in ten Maniples each.
- 12 The Bactra of two legions in ten Maniples each.
- 13 Two streets 50 feet wide each between the Bactra of the two Roman legions and the Horse of the Allice.
- 14 The Horse of the Allice waiting the Extraordinarii.



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1891

Published as the *Act of the Legislature of the State of New York*

Designed by Wilson Lowrie



PLAN OF THE ENCAMPMENT OF A PARK OF ARTILLERY,
with a Regiment of 12 Companies, each consisting of 60 Privates.

The Park contains 80 Cannon, 20 Howitzers, 20 Pontoons, 4 Forges, 436 Waggon, 2600 Horses, and 650 Drivers.

EXPLANATION.

A B C D. Bounds of the Park.

E. Artillery Ground.

F. Subalterns Tents.

G. Captains Tents.

H. Lieutenant Colonel,
and Majors Tents.

I. Colonel's Tent.

K. Staff Officers Tents.

L. Ground Suttlers Tents.

M. Petit Suttlers Tents.

N. Sergeants Tents.

O. Bells of Arms.

P. Alarm or Evening Guns.

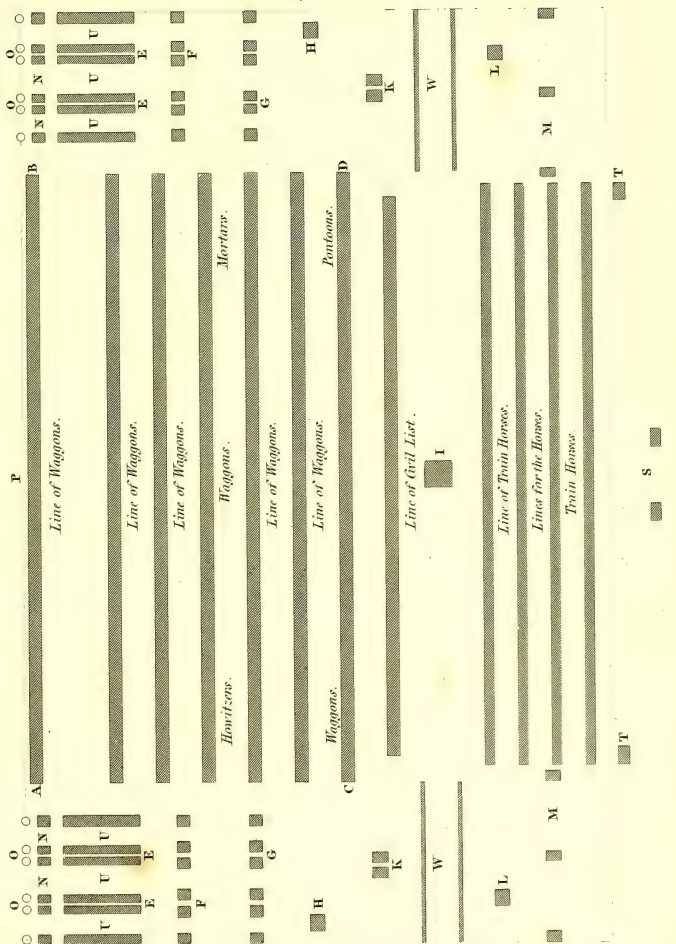
Q. Army Guard.

R. Artillery Guard.

S. Rear Guard.

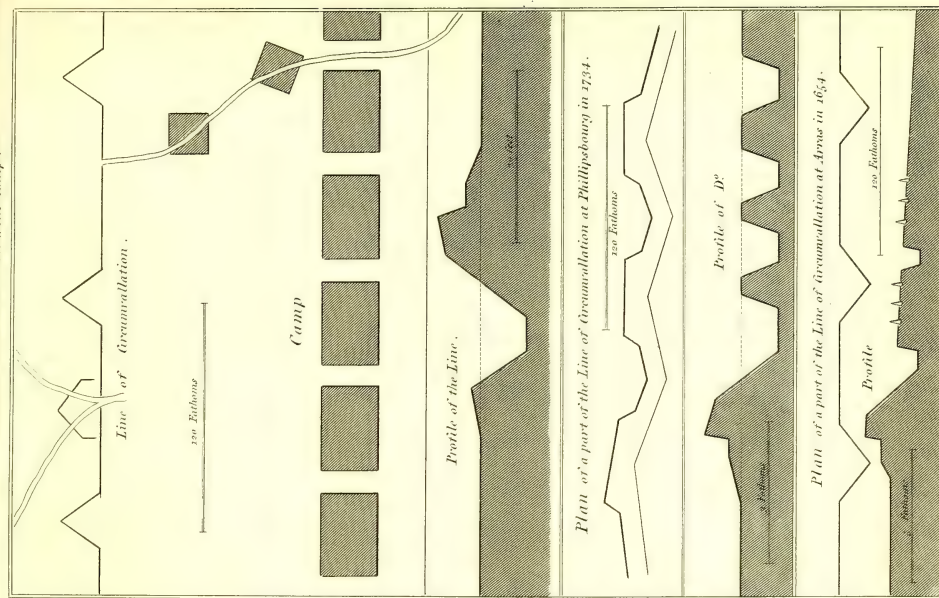
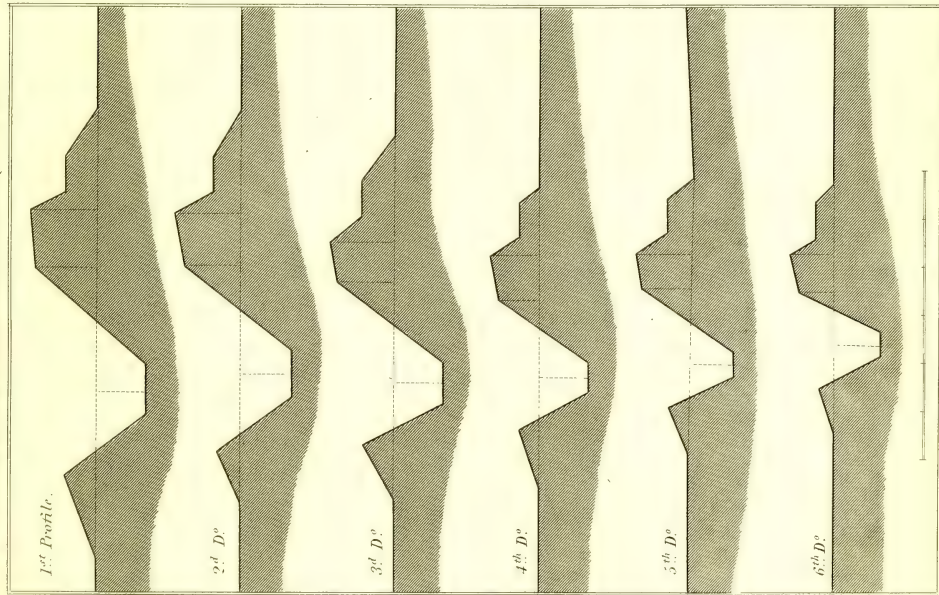
T. The Forge.

U. The Streets.

W. The Battmens Tents, and
Horses of the Regiment.

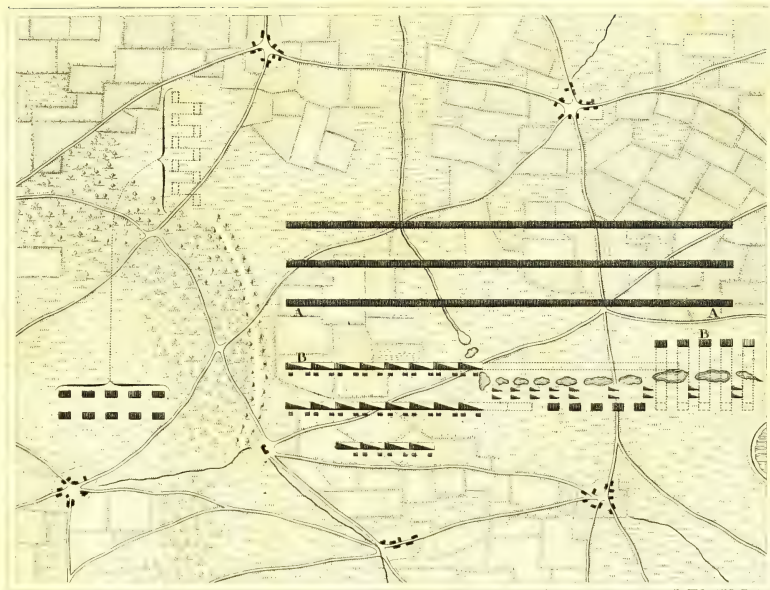
Total 980 Feet.





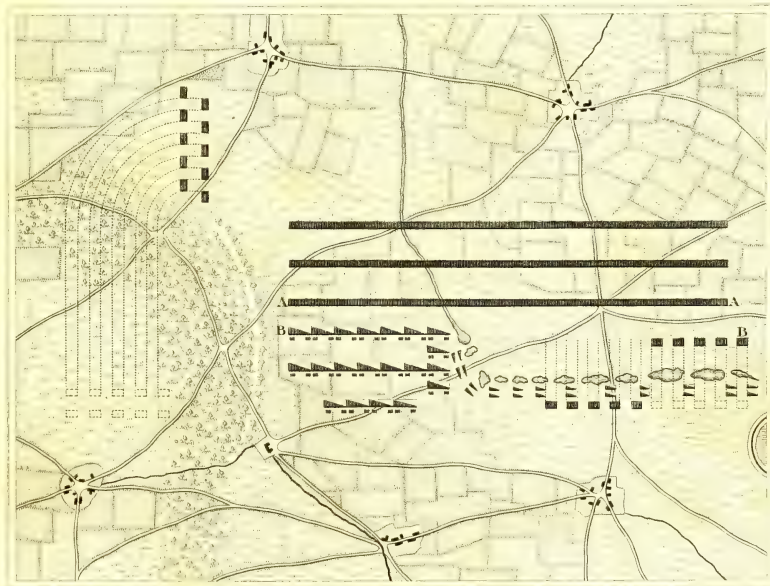
CASTRAMETATION.

PLATE V.



Furlongs
0 100 200 300 400 500 600 700 800 900 1000

PLATE VI.



Published on the 31st directly, 1864, by Longman, Hurst, Ross, & Co., 15, Paternoster Row.

Printed by W. H. & Co., 15, Paternoster Row.



CASTRAMETATION.

PLATE VII.

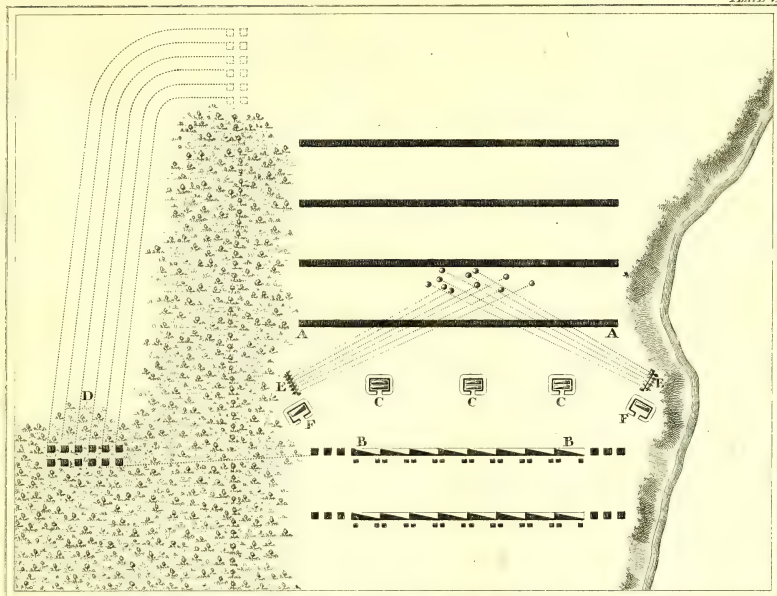
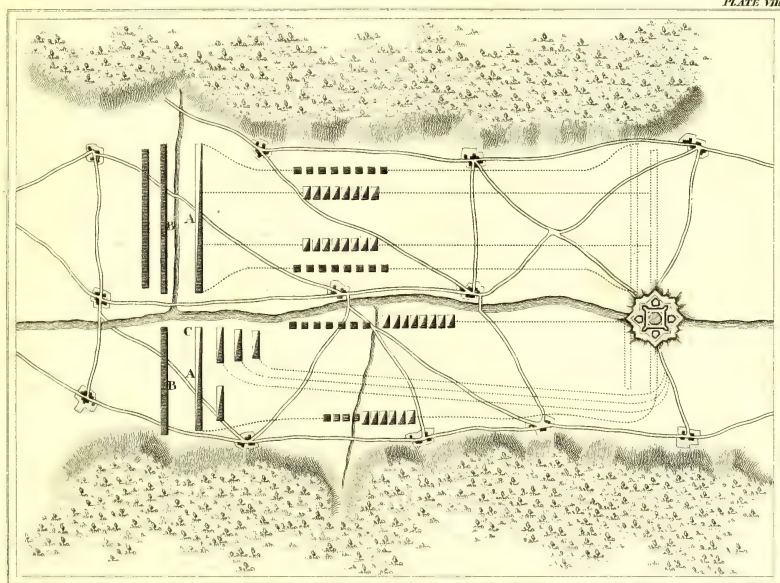
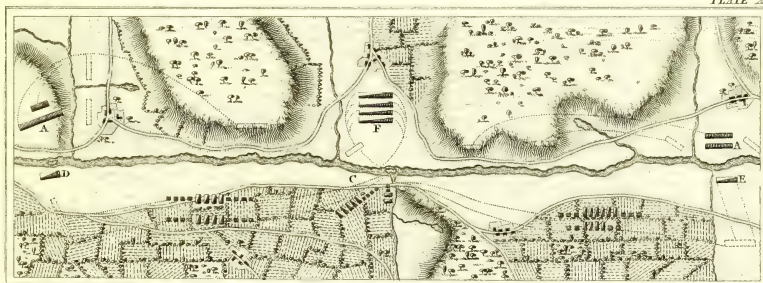
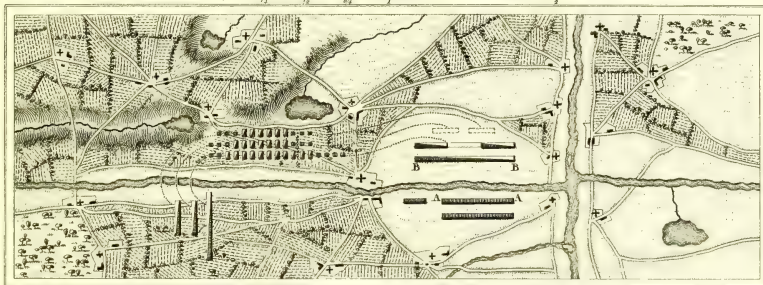
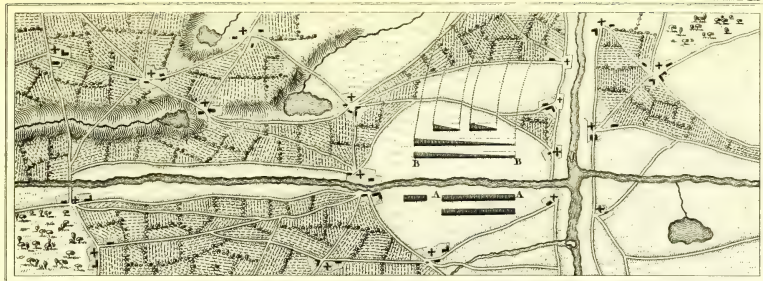


PLATE VIII.









CASTRAMETATION.

PLATE XI.

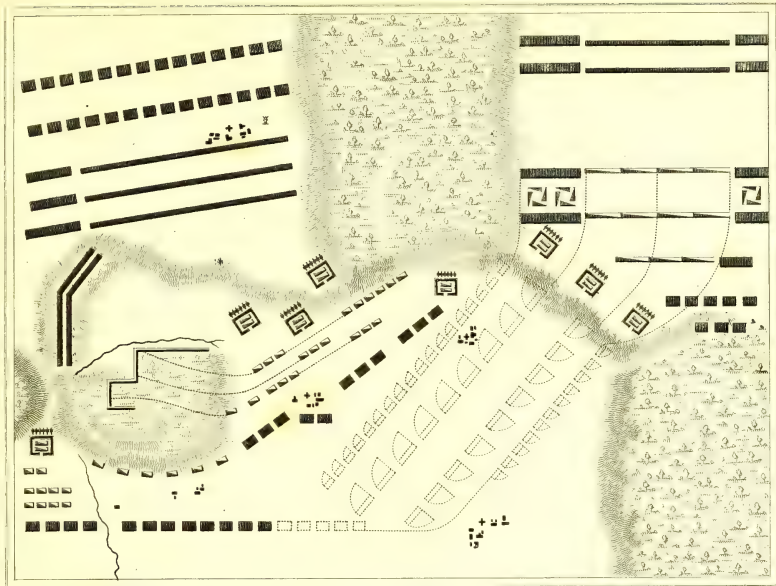


PLATE XII.

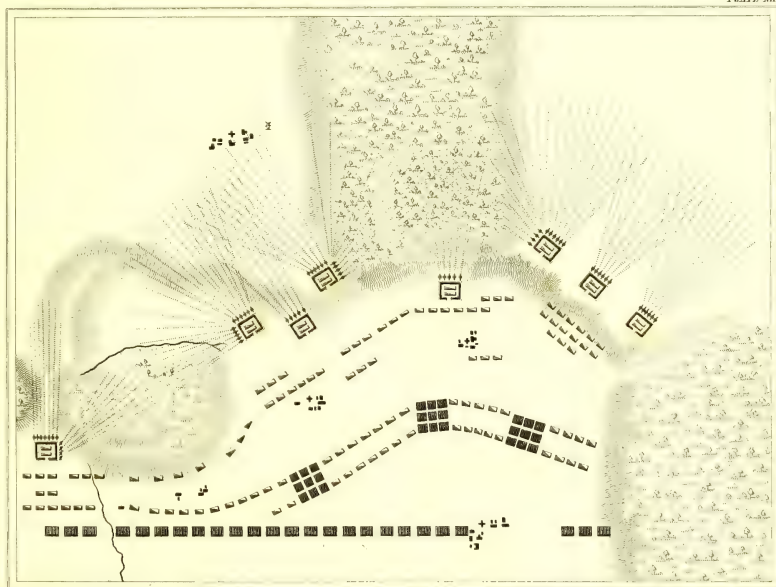




Fig. 1.
Level-cutting.



Fig. 2.

Side-lying Ground.

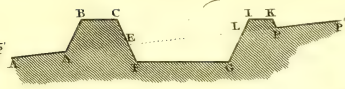


Fig. 3.

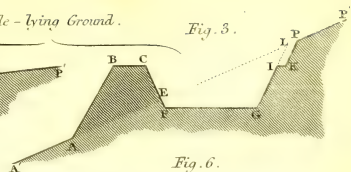


Fig. 6.

Deep-cutting.

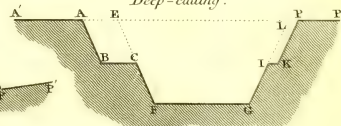


Fig. 4.

Embanking.

Fig. 5.



Fig. 7.

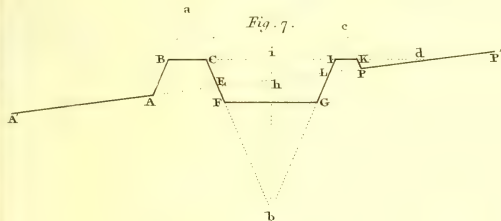


Fig. 8.

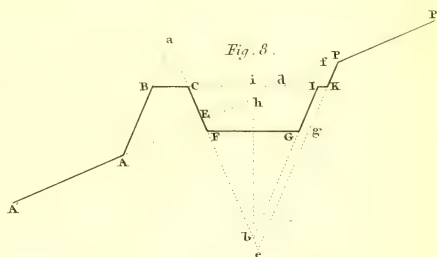


Fig. 9.

Fig. 10.

Fig. 11.

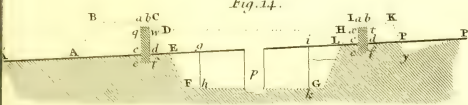
Fig. 12.

Fig. 13.



Puddling.

Fig. 14.



Lining.

Fig. 15.

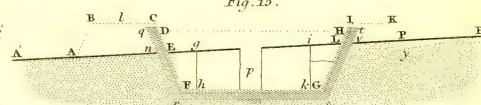


Fig. 16.

Reservoirs.

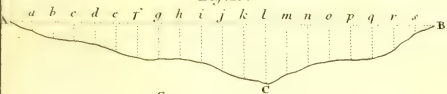
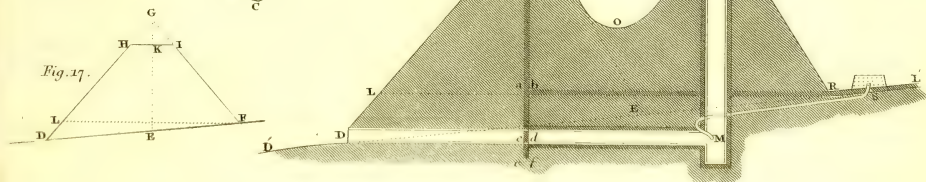
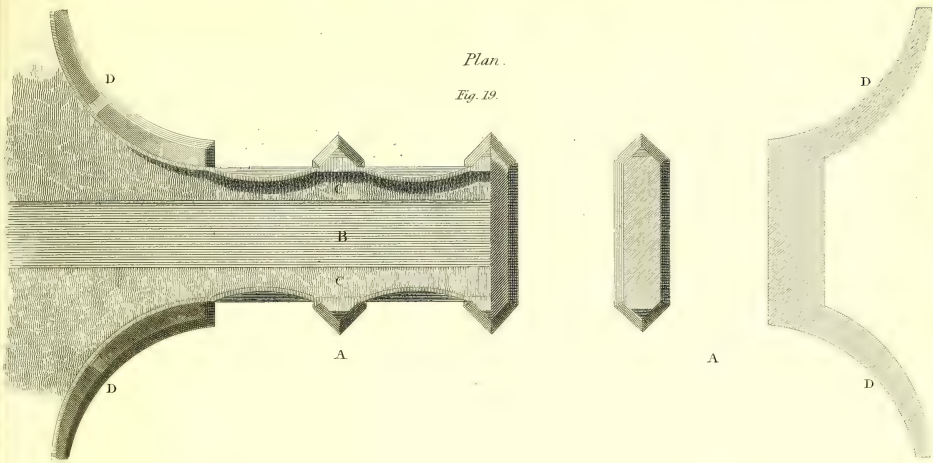
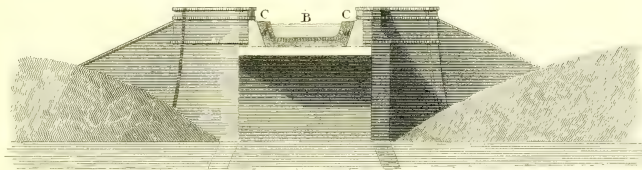
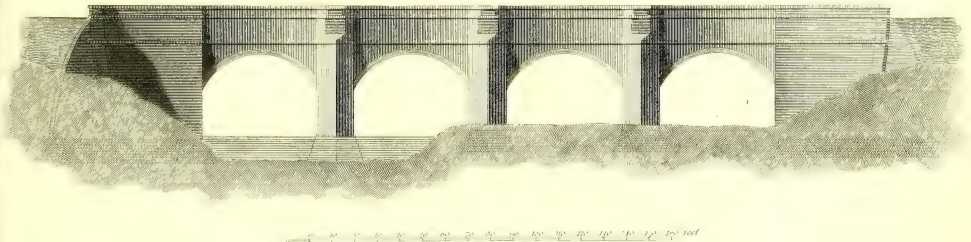


Fig. 18.

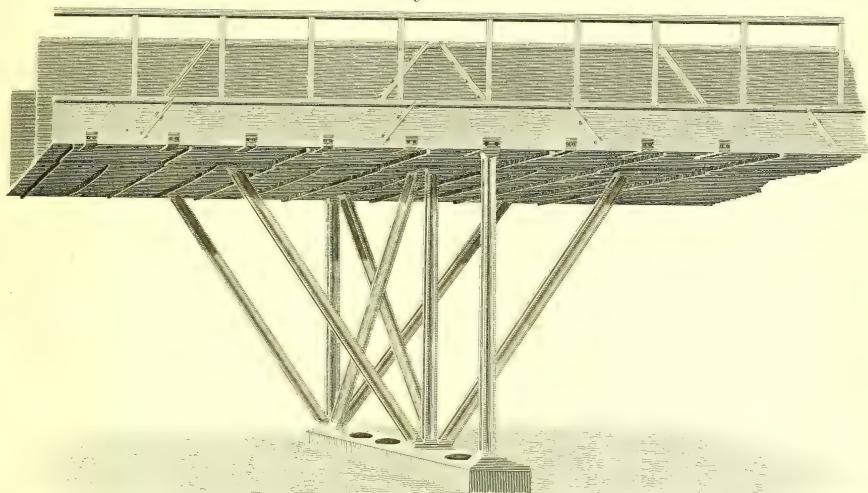
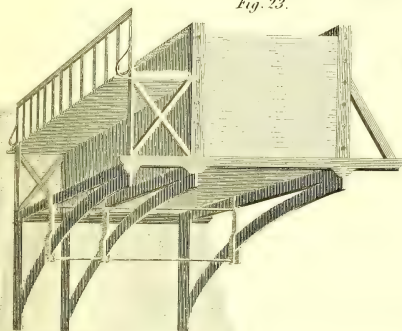
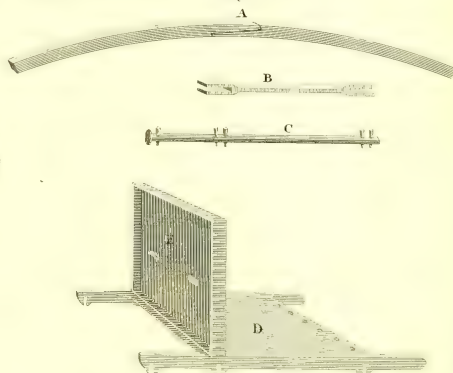




*Aqueduct BRIDGE at Kelvin, on the Forth & Clyde Canal.**Plan.**Fig. 19.**Transverse Section.**Fig. 20.**Elevation.**Fig. 21.*



CAST IRON AQUEDUCTS.

*M^r Telford's, on the Shrewsbury Canal at Long.**Fig. 22.**Fig. 23.**by M^r Fulton.**Fig. 24.*

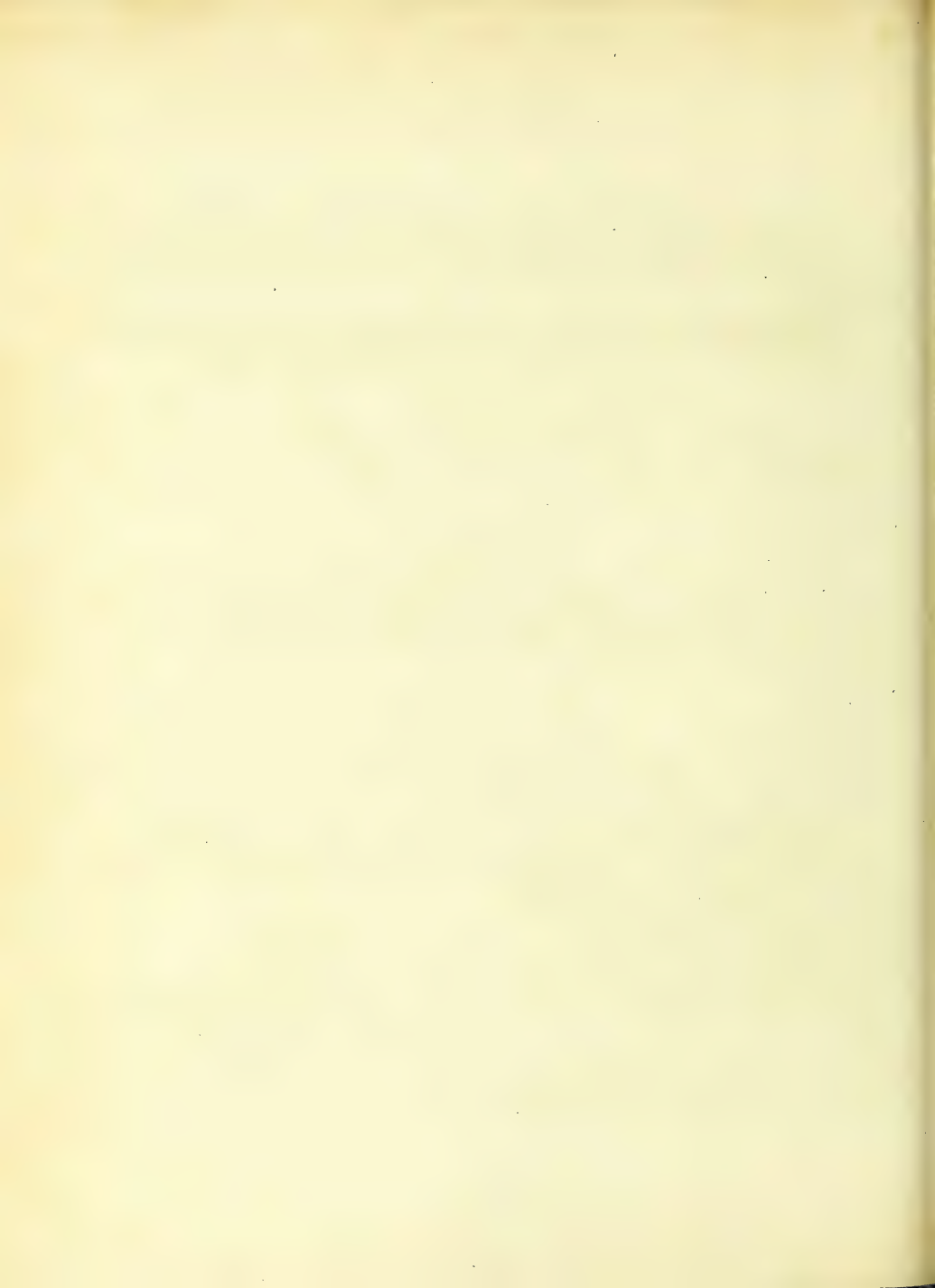


Fig. 25. Embankment

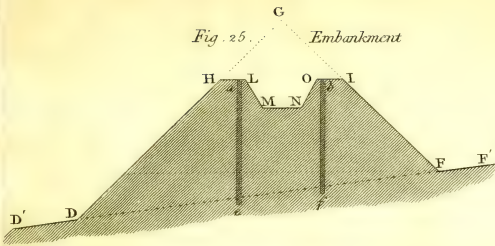


Fig. 26. Safety Gate.

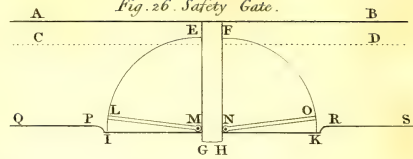


Fig. 27. Weir.

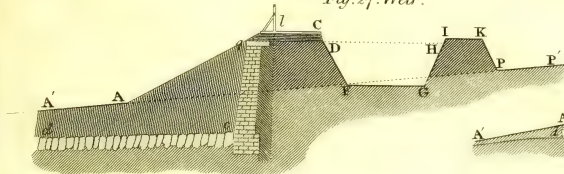


Fig. 28. Circular Weir.

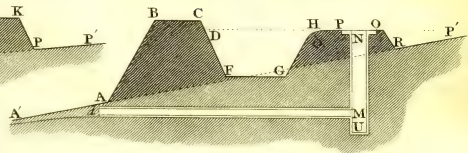


Fig. 29.

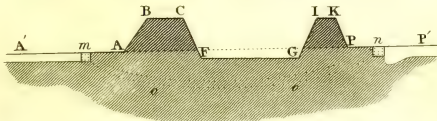


Fig. 30. Pile-planks.

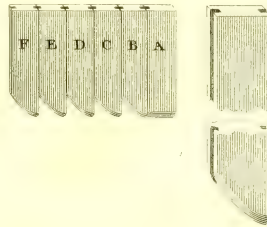


Fig. 31.

Iron Rail-ways.



Fig. 34.



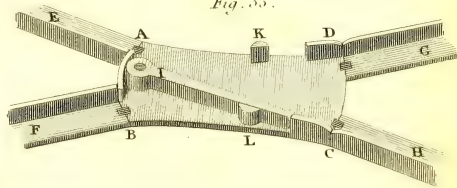
Fig. 32.



Fig. 33.



Fig. 35.



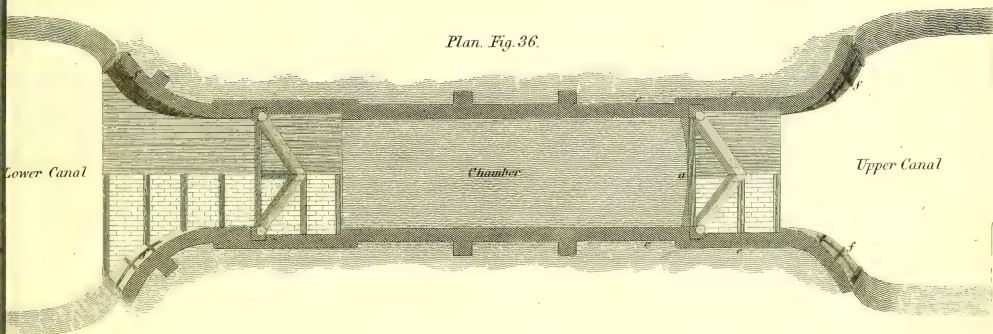


CANALS.

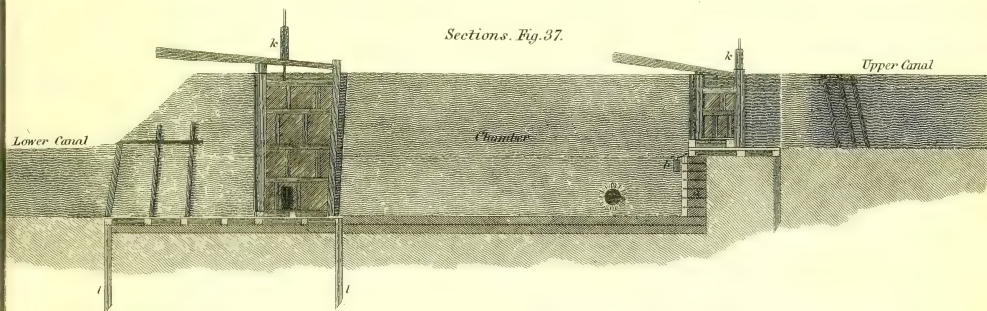
LOCKS.

PLATE V.

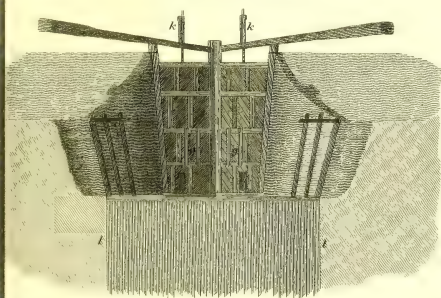
Plan. Fig. 36.



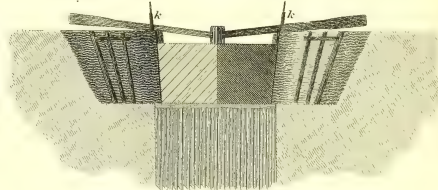
Sections. Fig. 37.



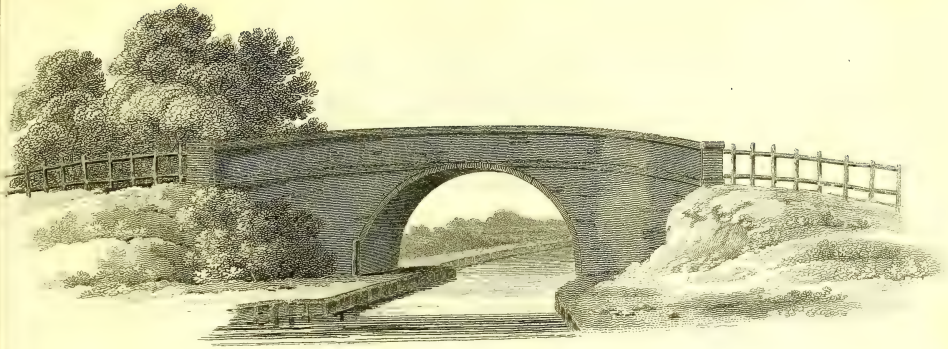
Lower Gates Fig. 39.



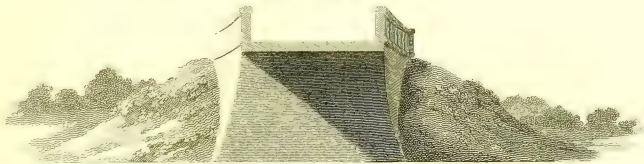
Upper Gates. Fig. 38.



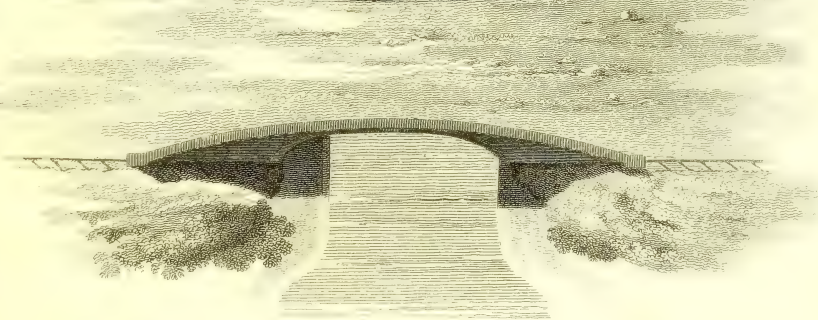
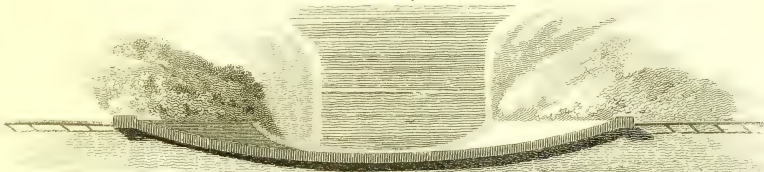




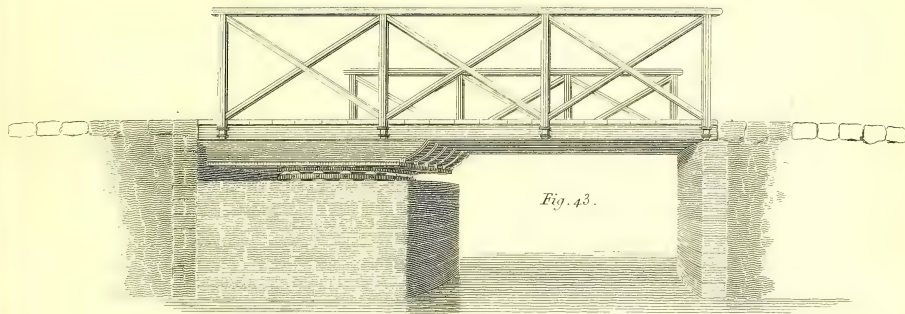
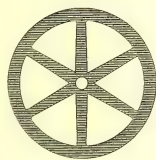
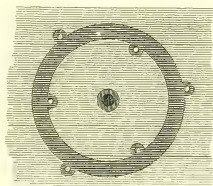
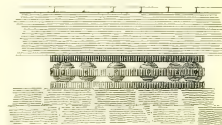
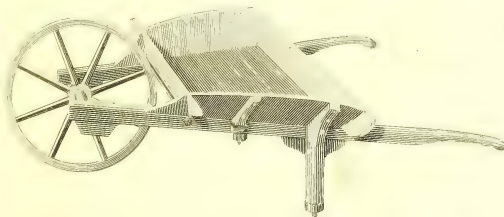
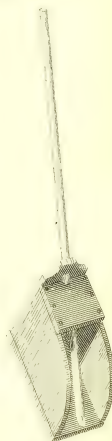
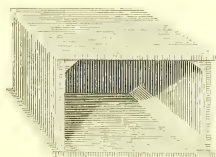
Section Fig. 41.



Plan Fig. 40.





Swing-Bridge.*Fig. 43.**Fig. 44.**Fig. 45.**Fig. 46.**Fig. 47.**NAVIGATOR'S TOOLS &c.**Fig. 48. Barrow.**Fig. 52. Scoop.**Fig. 50. Grafting Tool.**Fig. 51. Shovel.**Fig. 49. Horsing-Block.*



CANDLE. CANDLE MAKING.

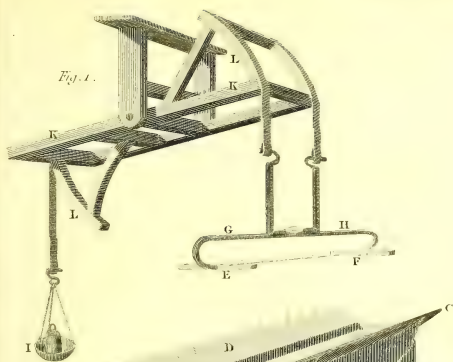


Fig. 2.

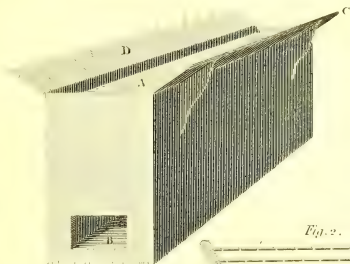


Fig. 3.



Fig. 2.

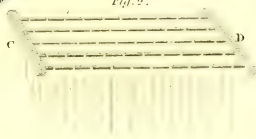


Fig. 4.

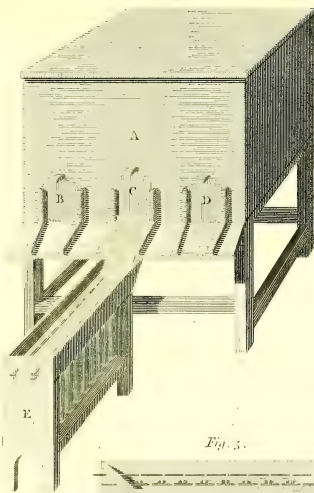


Fig. 5.



Fig. 6.

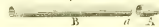
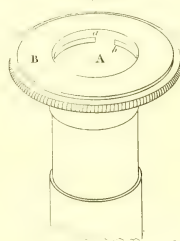


Fig. 11.



CANDLESTICKS.

Fig. 7.

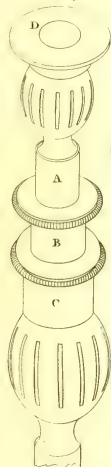


Fig. 8.

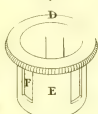


Fig. 9.

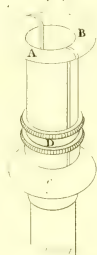


Fig. 10.

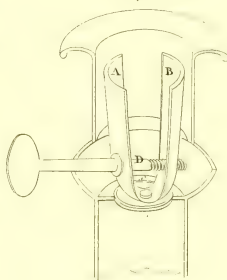
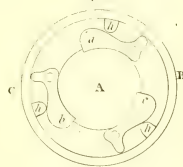
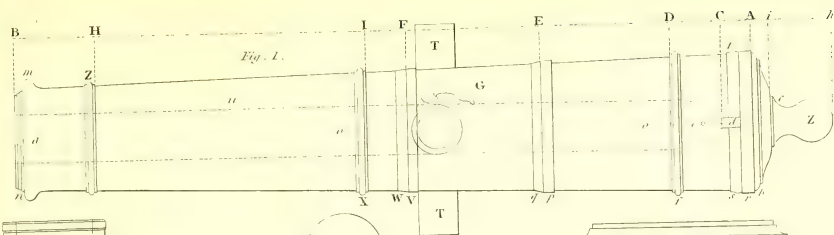


Fig. 12.







12.

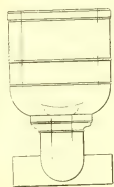


Fig. 2.

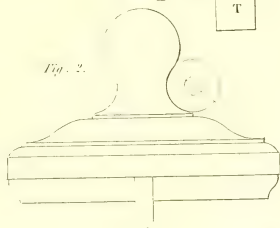


Fig. 3.

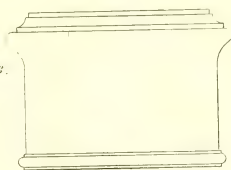


Fig. 5.

Fig. 7.



Fig. 6.

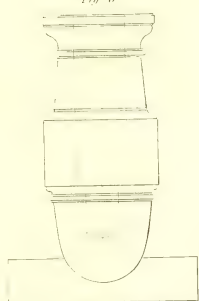


Fig. 4.

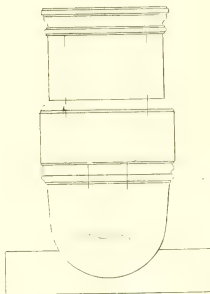


Fig. 10.

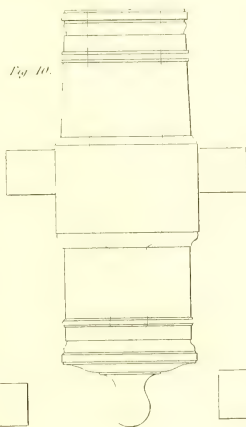


Fig. 9.

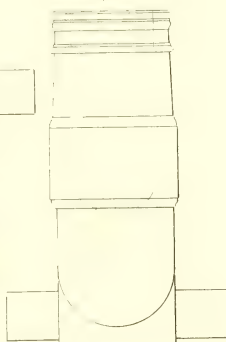


Fig. 8.

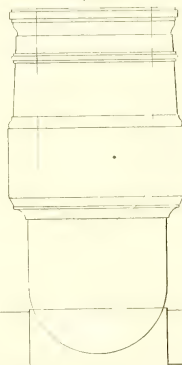
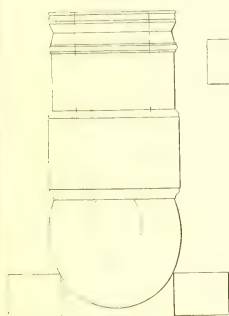


Fig. 11.





CANNON. BORING.

PLATE II.

Fig. 13.

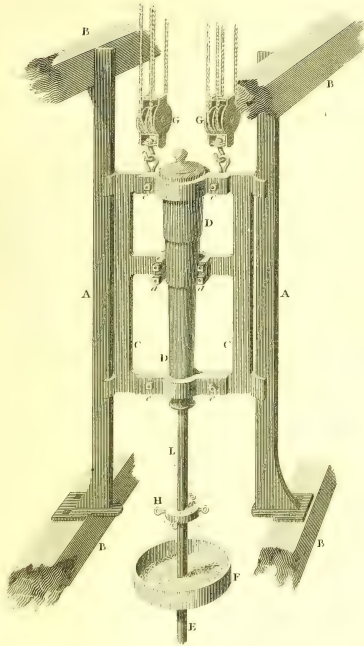


Fig. 14.

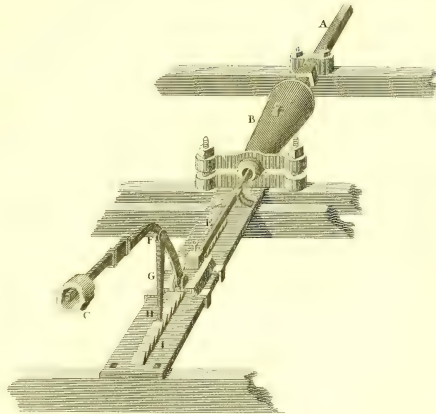


Fig. 15.

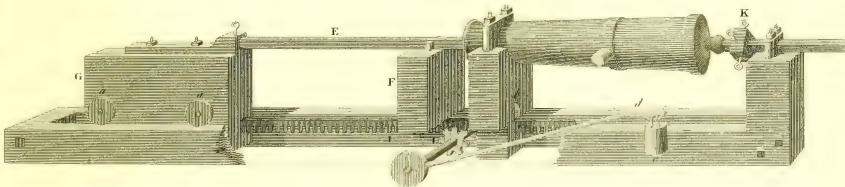
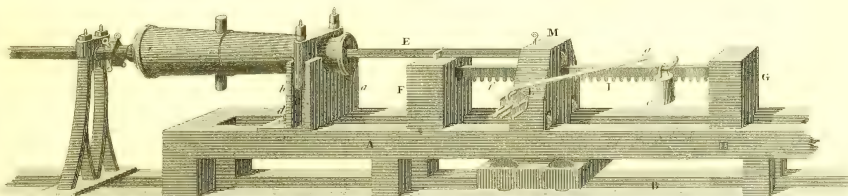


Fig. 16.



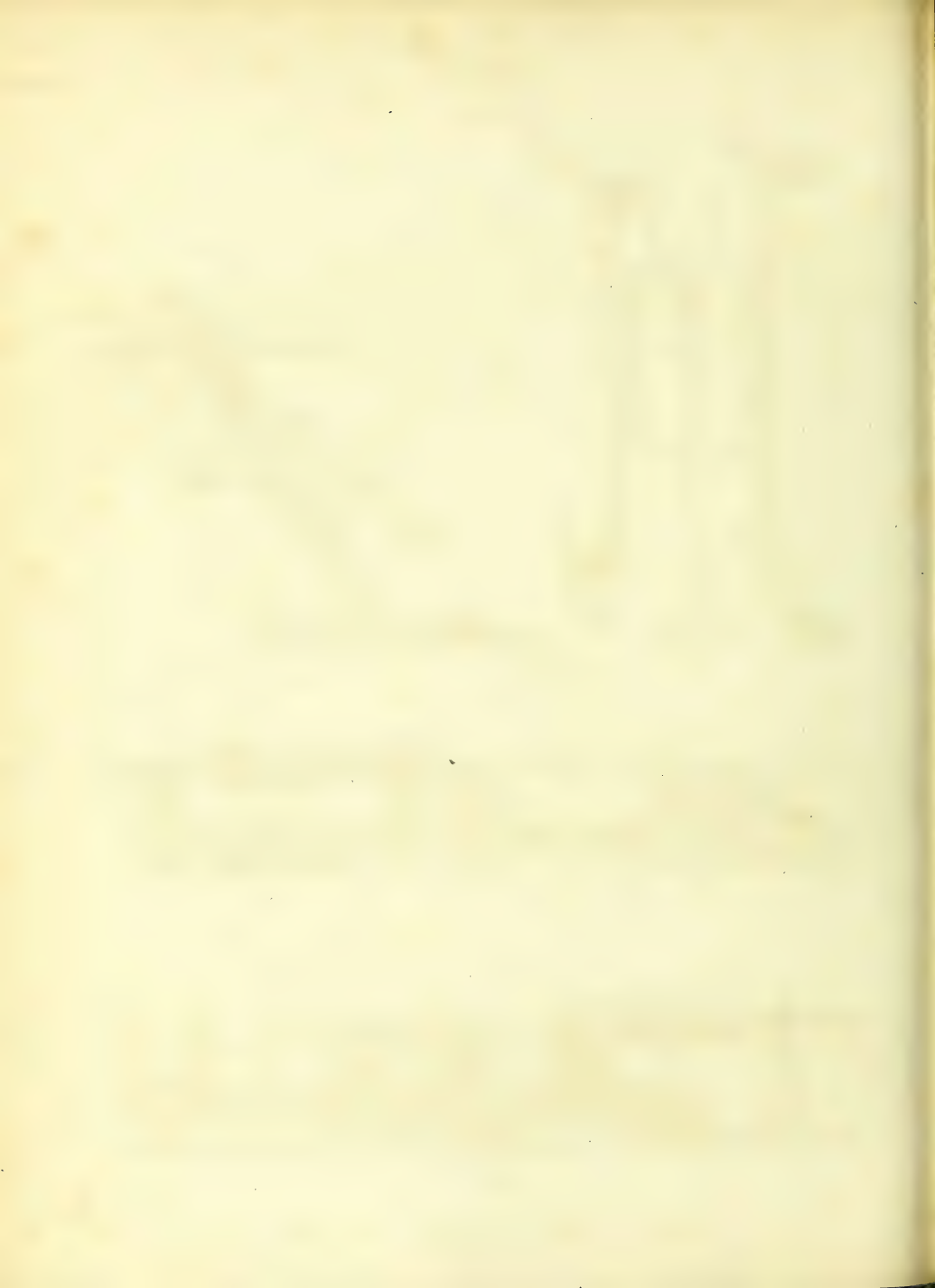


Fig. 17.

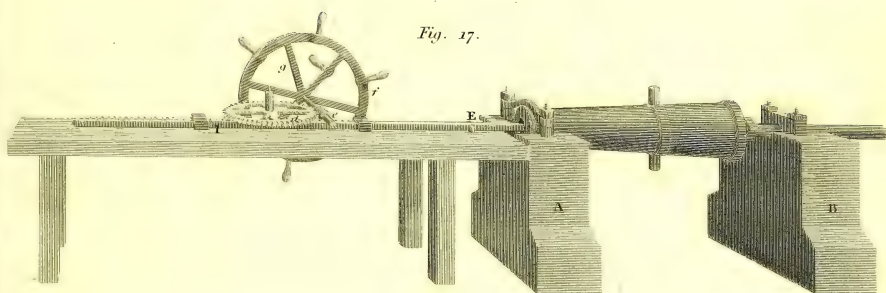


Fig. 18.

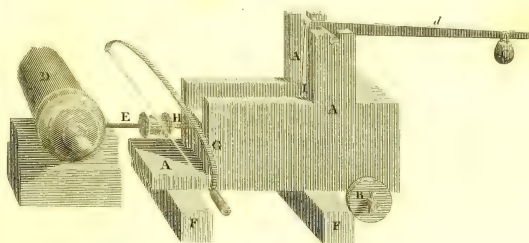


Fig. 19.

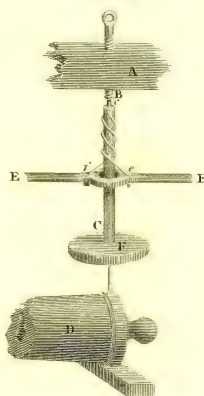


Fig. 20.

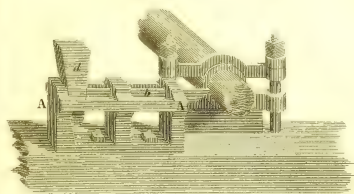
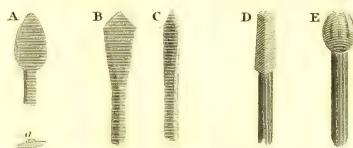


Fig. 21.





CANTEENS.
MANUFACTURE OF
by M^r. Geo. Smart.

PLATE I.

Fig. 1. A Canteen.

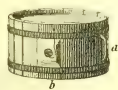


Fig. 2. Crofs cutting Saw.

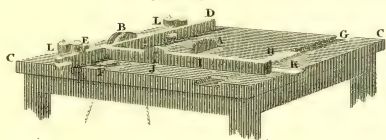


Fig. 3.

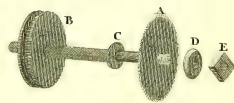


Fig. 4. Tenanting or rebating Saws.

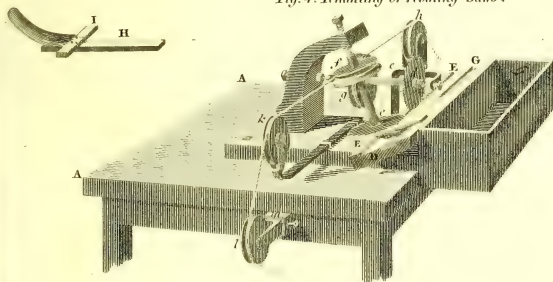


Fig. 5.



Fig. 6. Bung stave.



Fig. 8. Center bit.



Fig. 7. boring Machine.

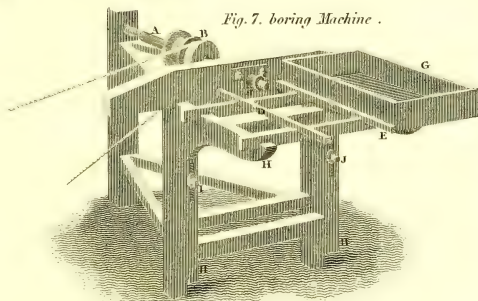


Fig. 9. Slider.

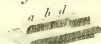




Fig. 11.
Screw Hoop

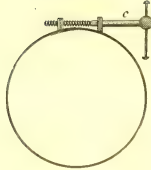


Fig. 12.
Truss Hoop



Fig. 13.



Fig. 10.

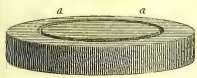


Fig. 15. turning the head.

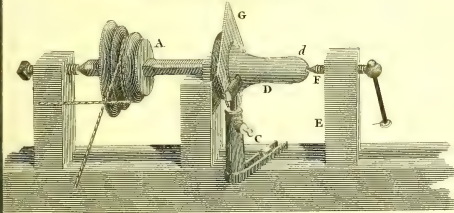


Fig. 14. turning the chime.

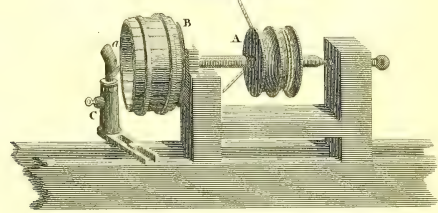
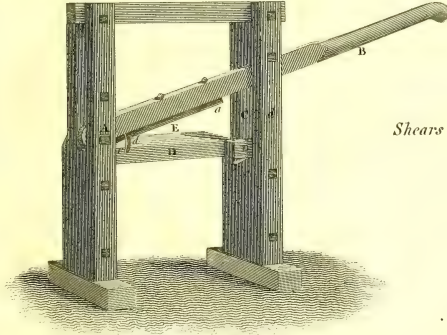


Fig. 16.



Shears

Fig. 17.



Fig. 18. punching the Hoops.

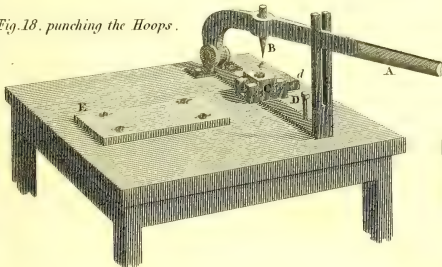


Fig. 19. rounding the ends of the Hoops

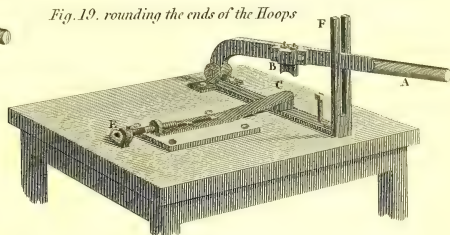




Fig. 1.

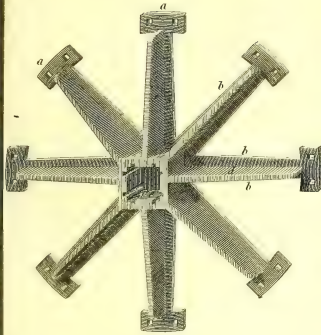


Fig. 2.

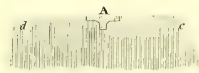


Fig. 3.



Fig. 5.



Fig. 4.



Fig. 7.

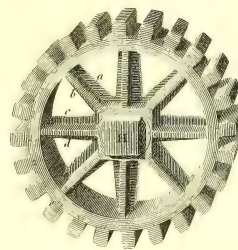


Fig. 8.



Fig. 9.



Fig. 6.

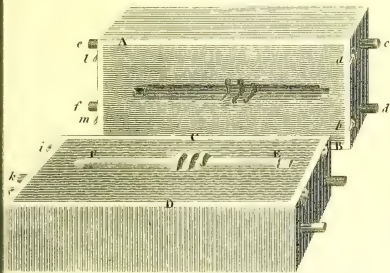


Fig. 10.

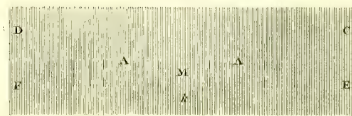


Fig. 11.

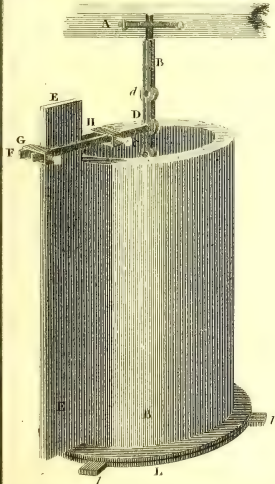


Fig. 12.

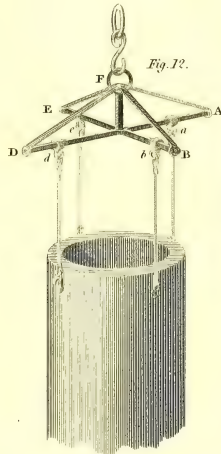
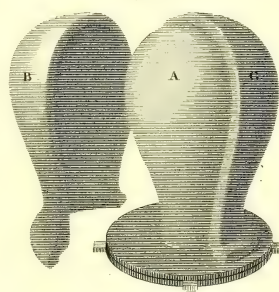


Fig. 13.





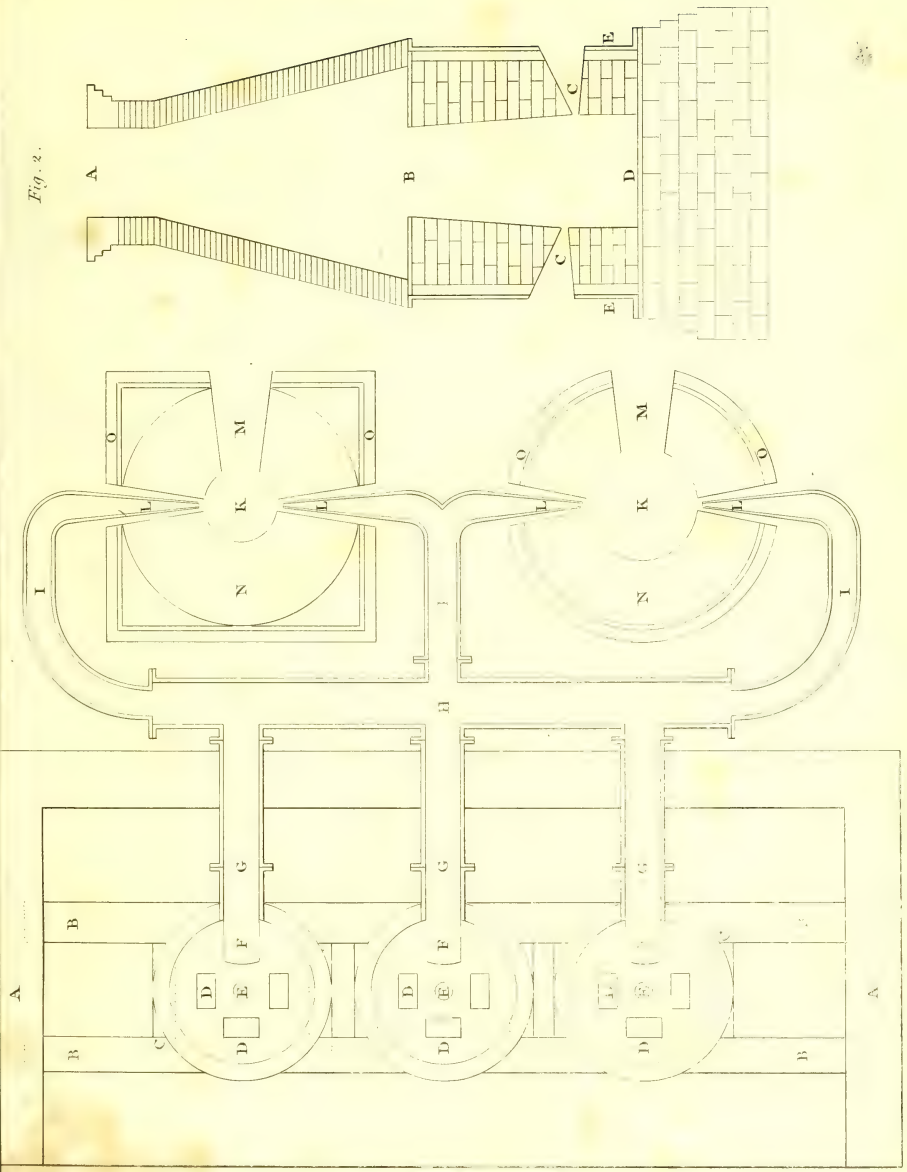


Fig. 2.



STILL.

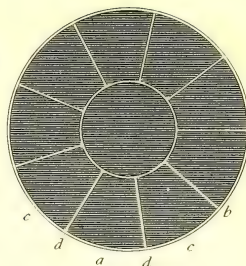
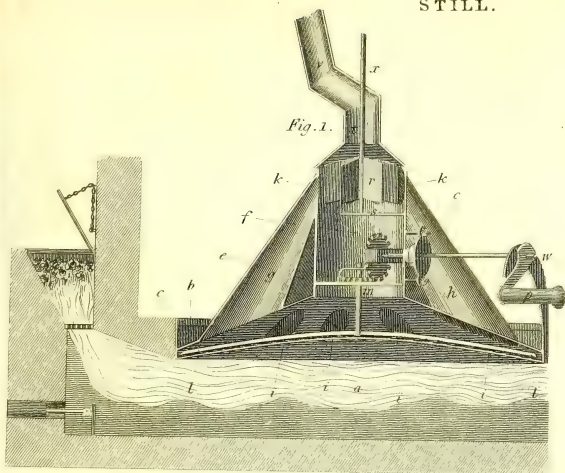


Fig. 2.

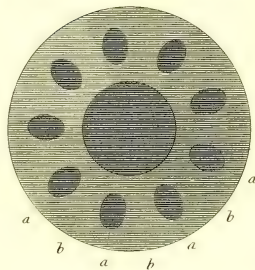


Fig. 3.

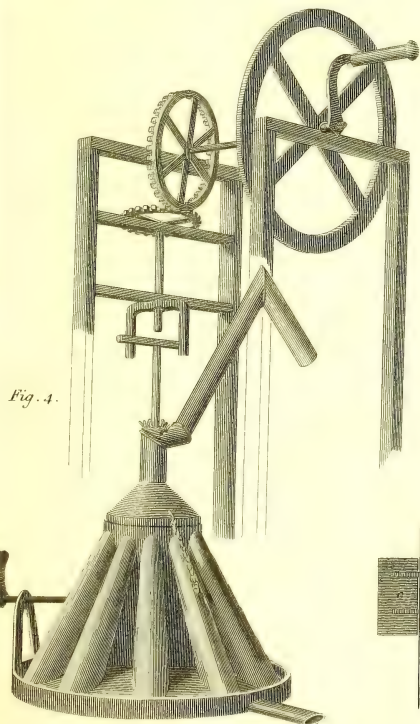


Fig. 4.

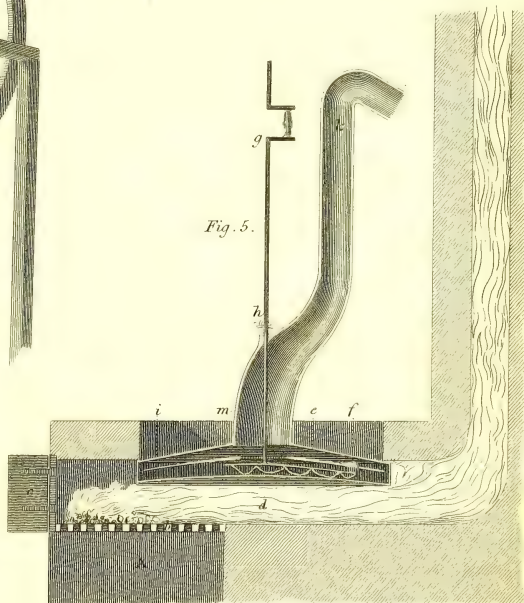
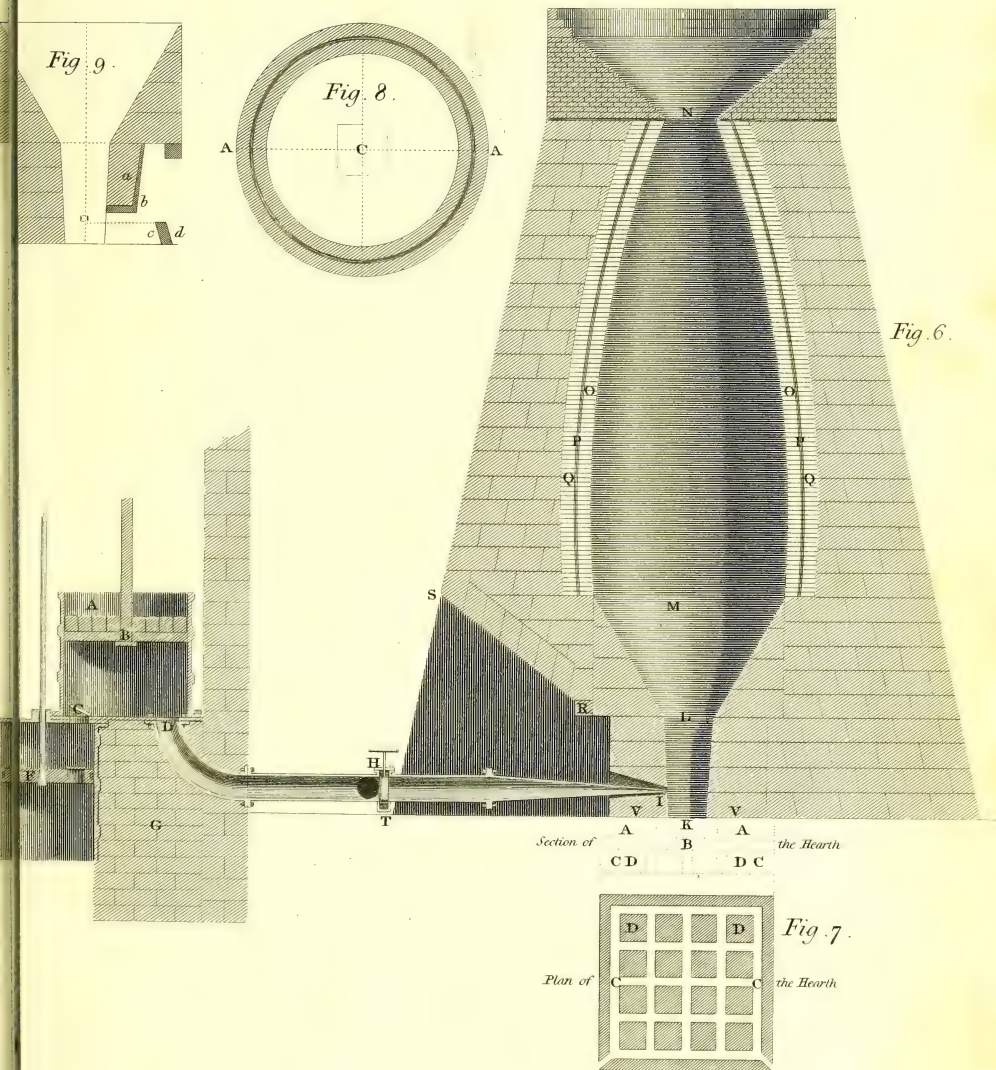


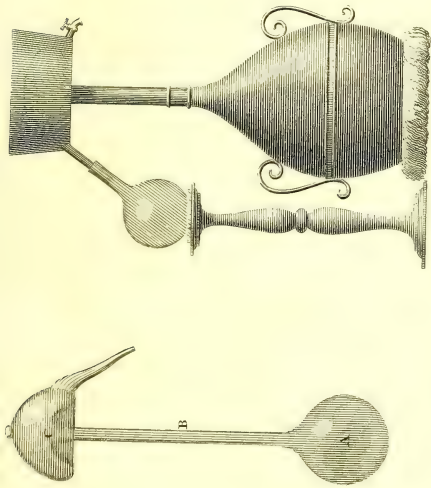
Fig. 5.



IRON SMELTING FURNACE







ALCOHOL.
Fig. 20.

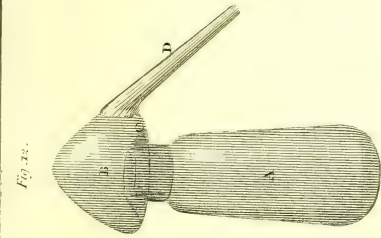
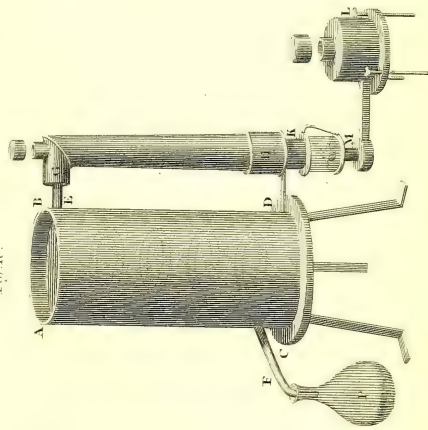
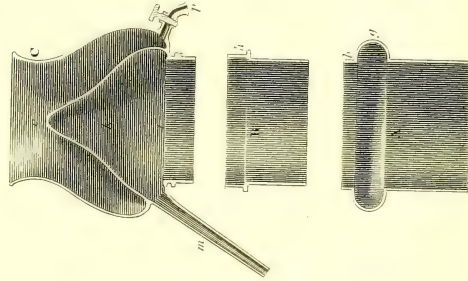
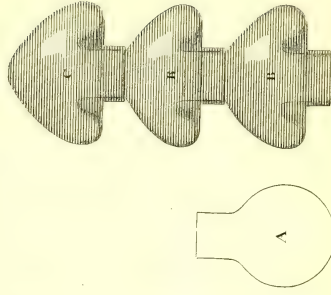


Fig. 22.

Fig. 23.

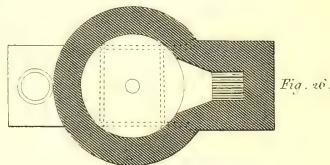
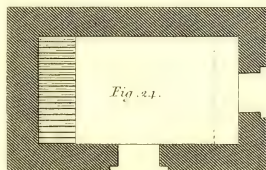
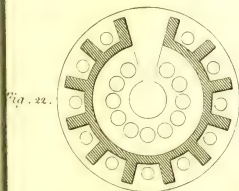
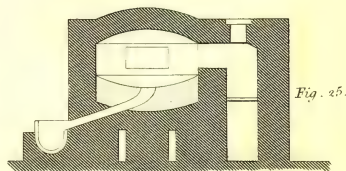
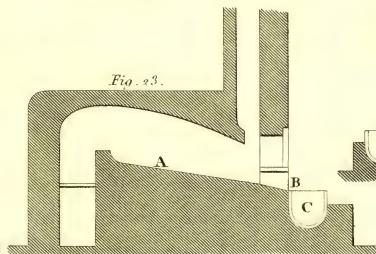
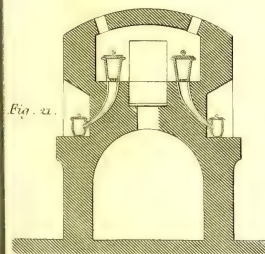
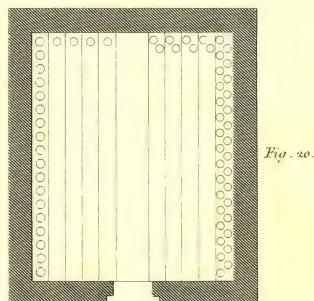
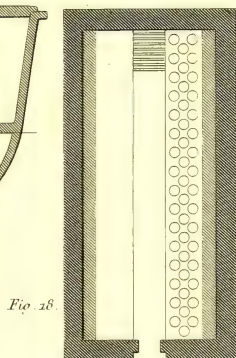
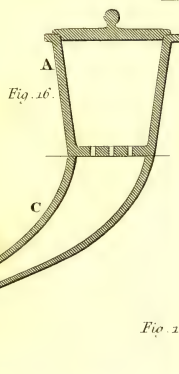
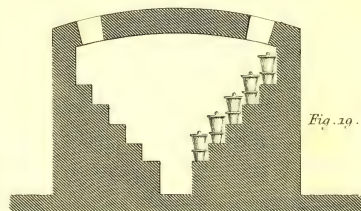
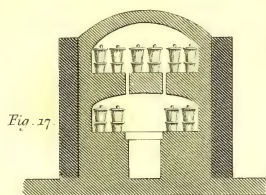
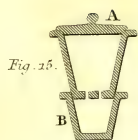


ALUDEL.
Fig. 24.





FURNACES FOR THE REDUCTION OF ANTIMONY.



Scale of feet for all except Figs 25 & 26



WOULFE'S APPARATUS.

Fig. 28.

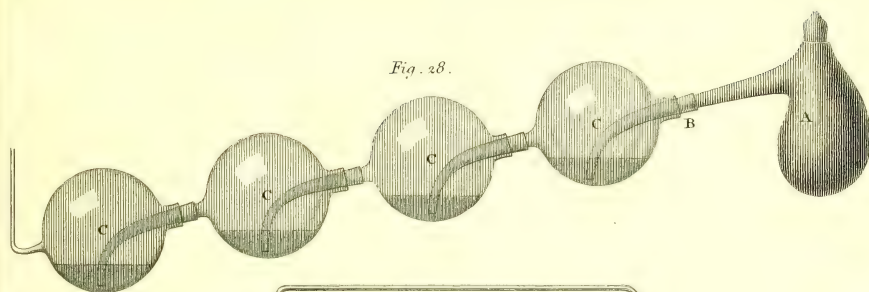
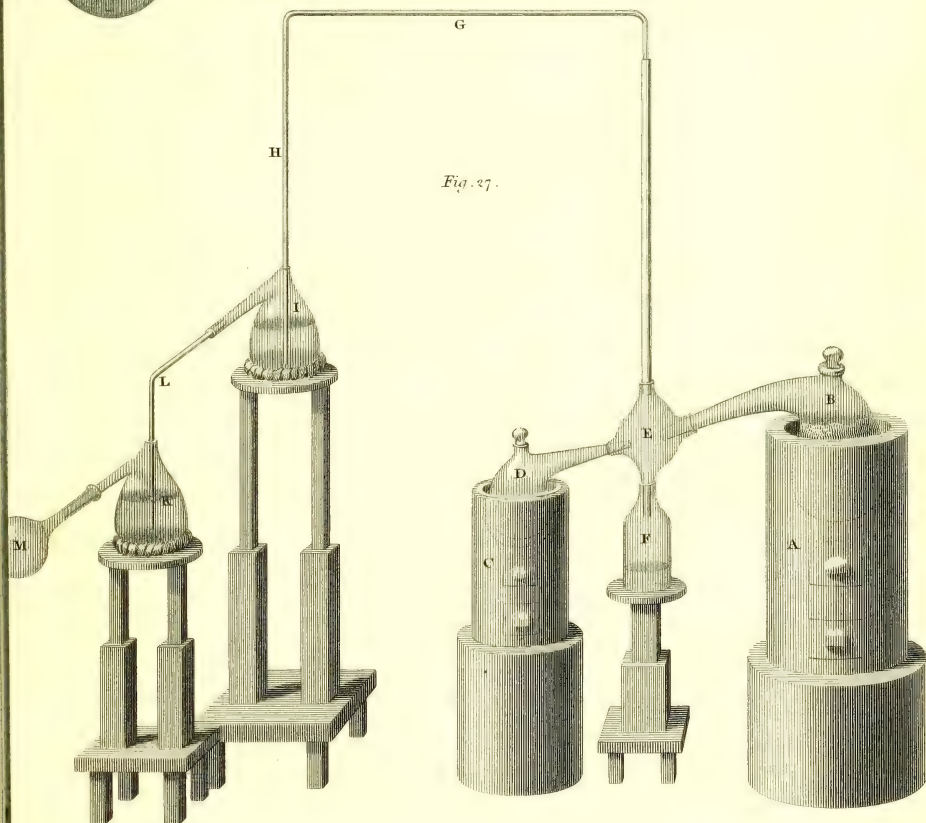
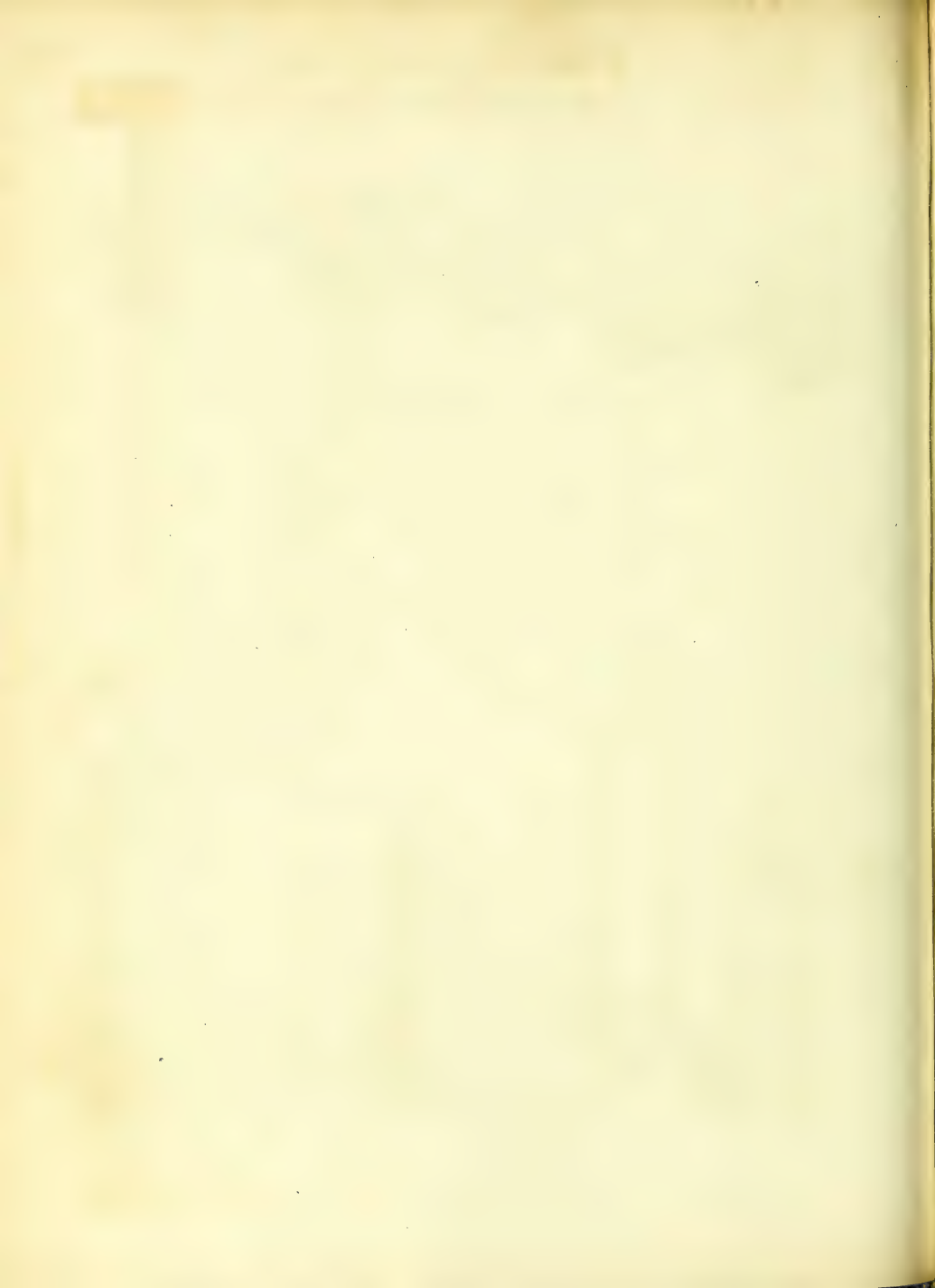
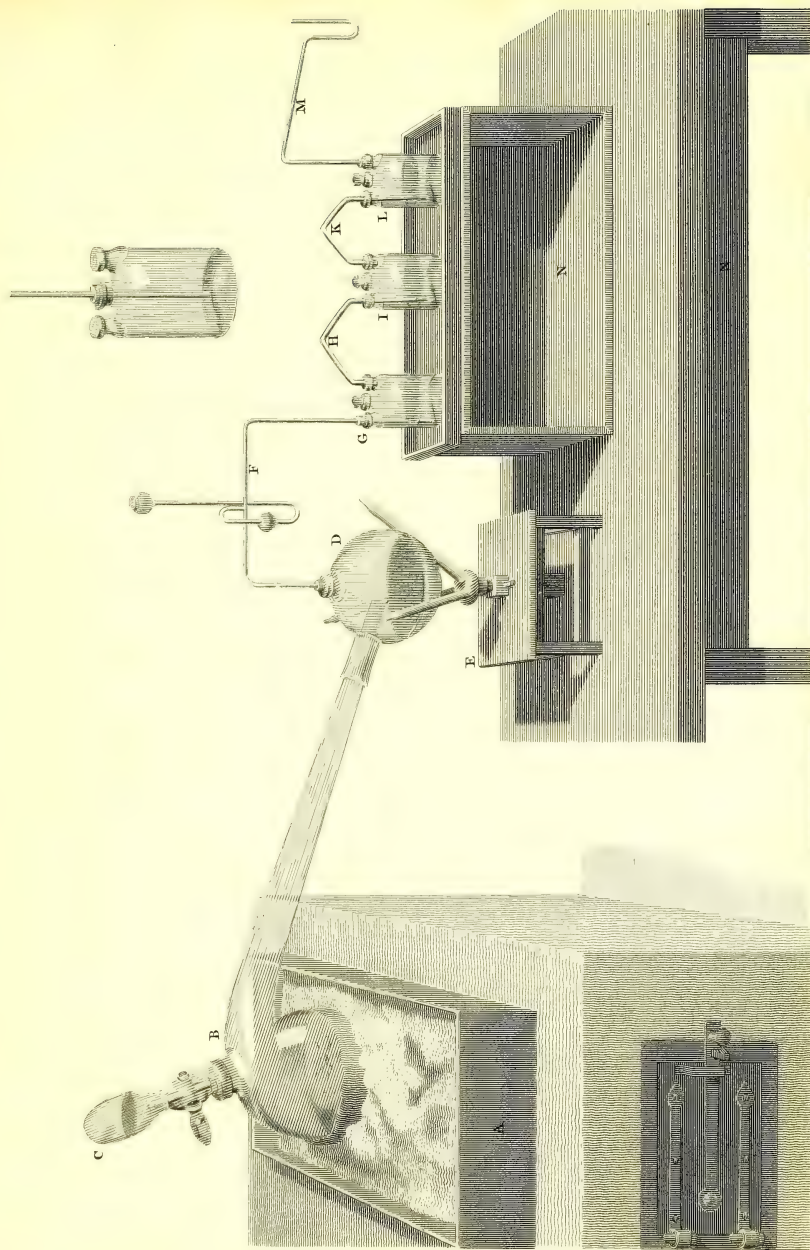


Fig. 27.





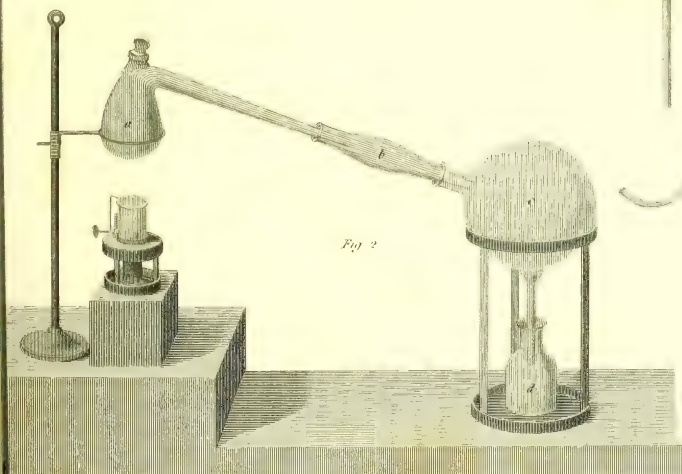
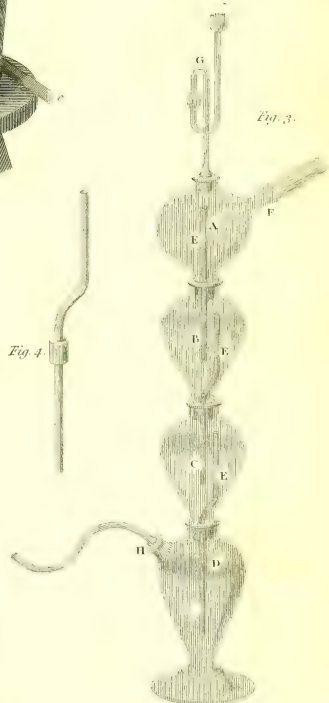
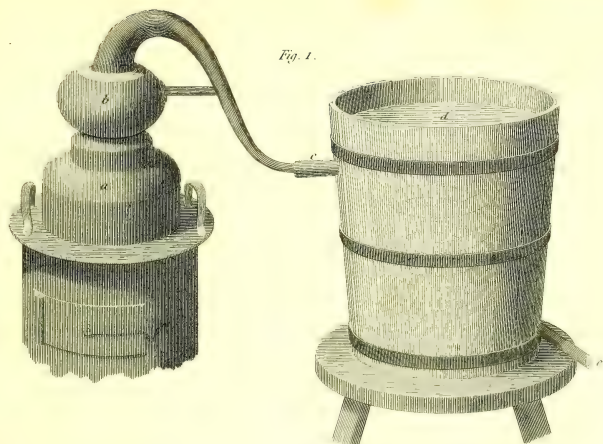
WOULFE'S APPARATUS.





CHEMISTRY.
DISTILLATION.

PLATE VII.





BLAST FURNACE.

Fig. 1.

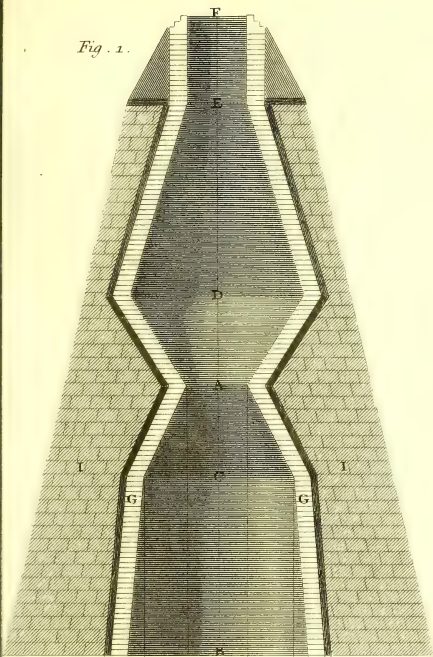


Fig. 3.

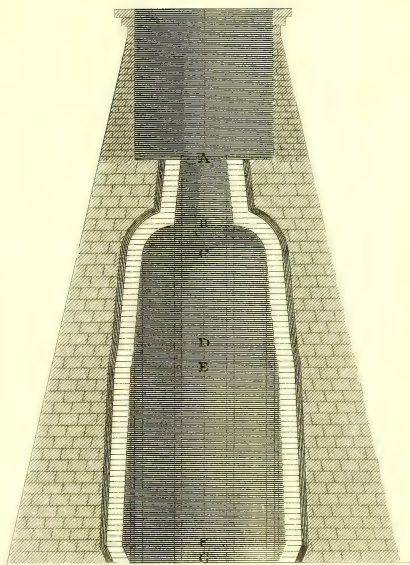


Fig. 2.

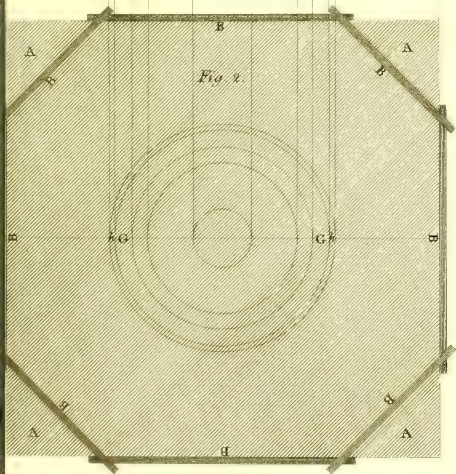
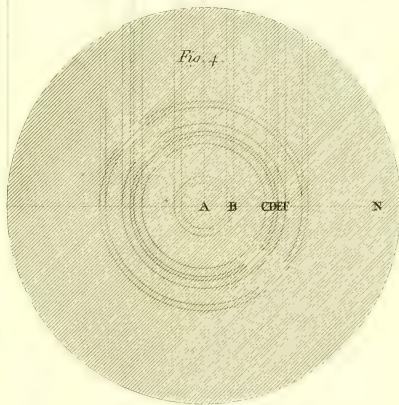
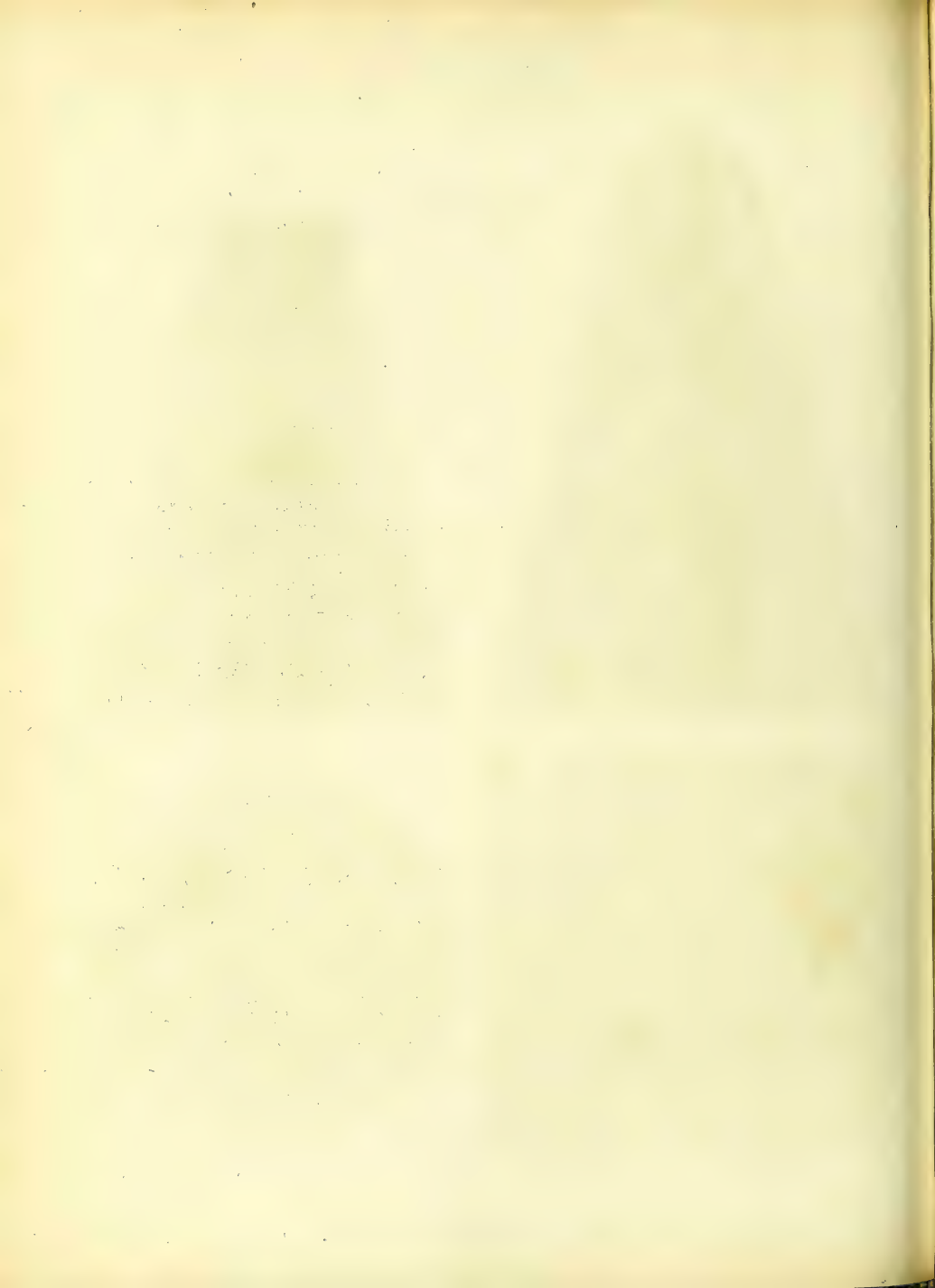


Fig. 4.





BLAST FURNACE.

Fig. 1.

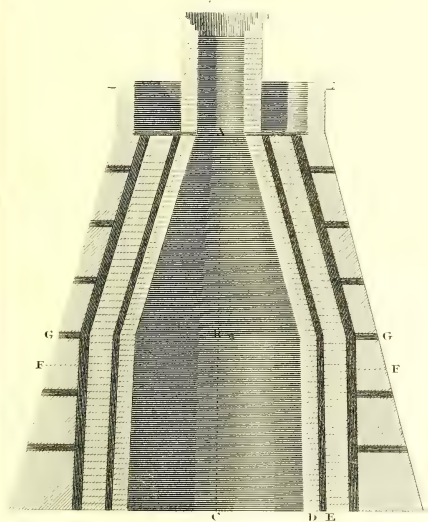


Fig. 3.

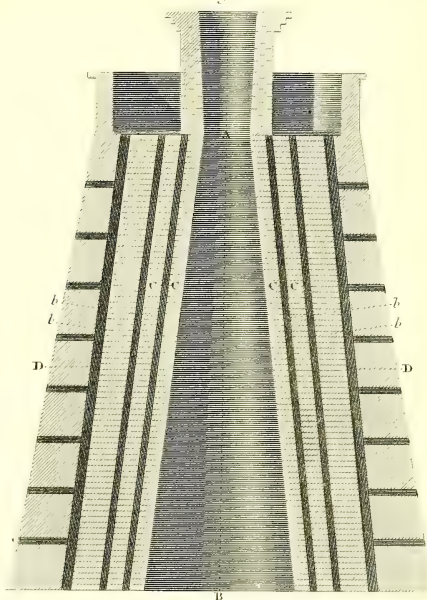


Fig. 2.

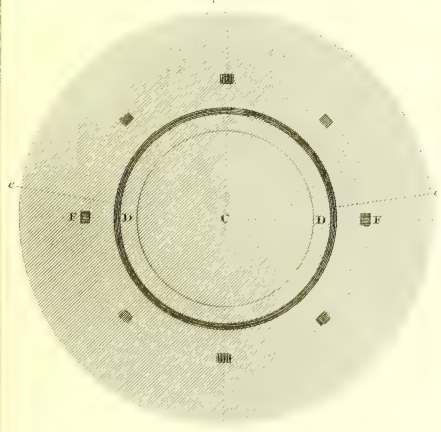
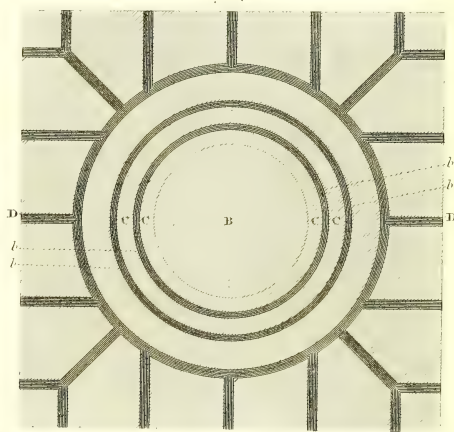
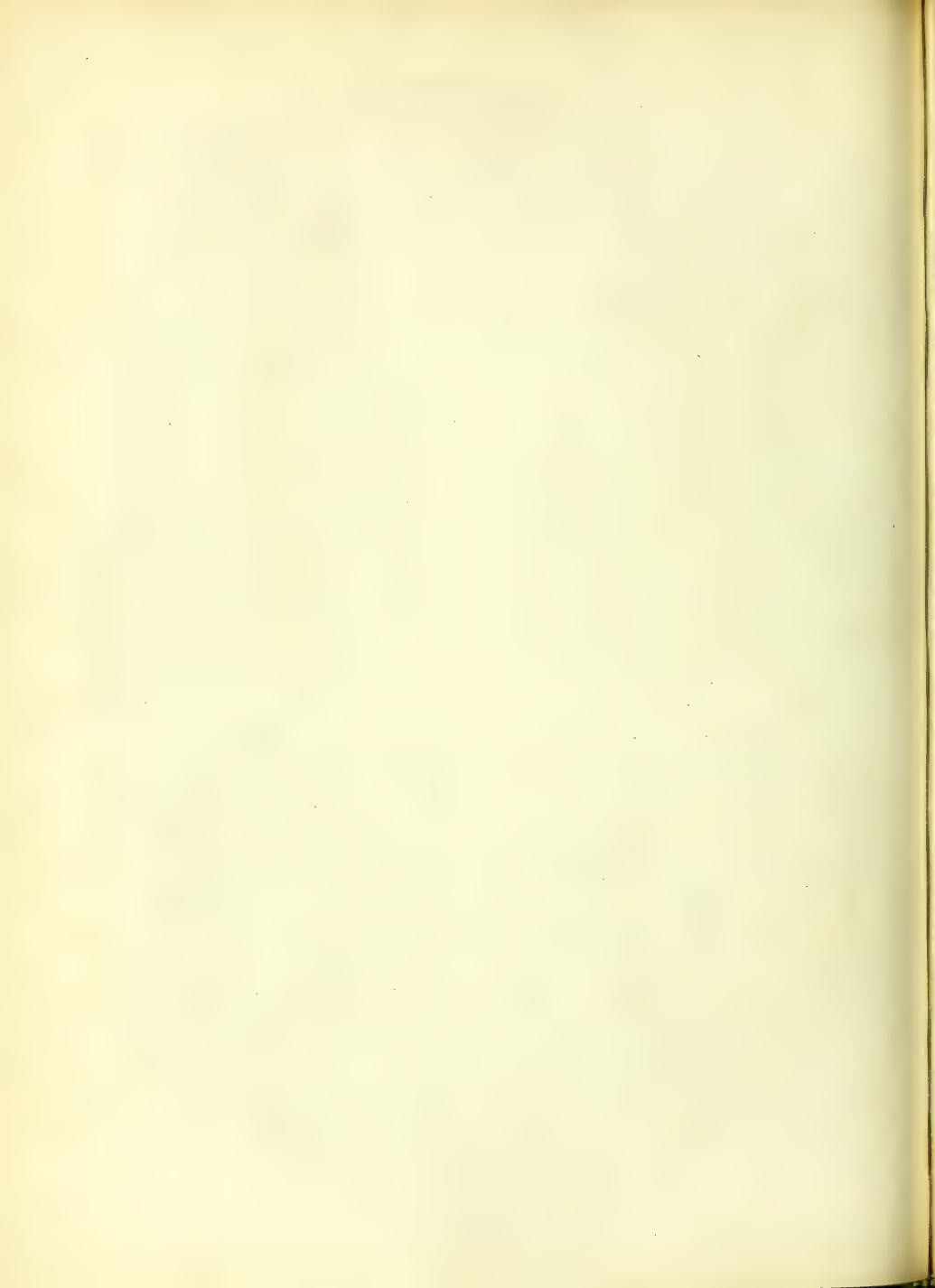


Fig. 4.





BLIST FURNACE.

Fig. 1.

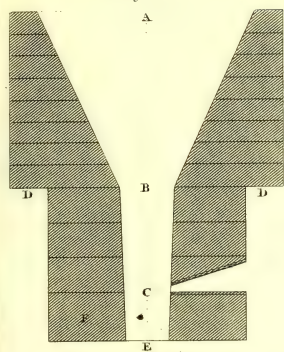


Fig. 4.

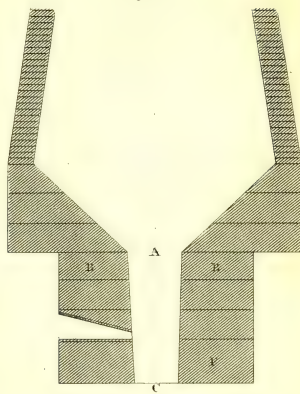


Fig. 2.

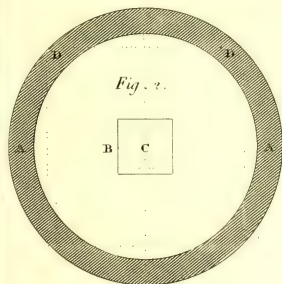


Fig. 5.

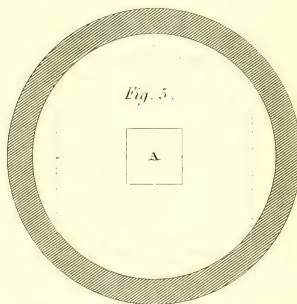


Fig. 3.

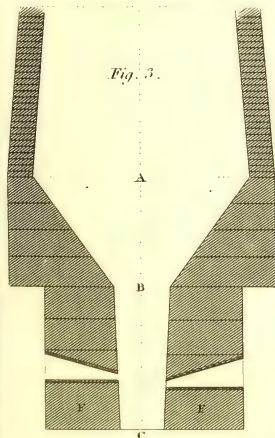
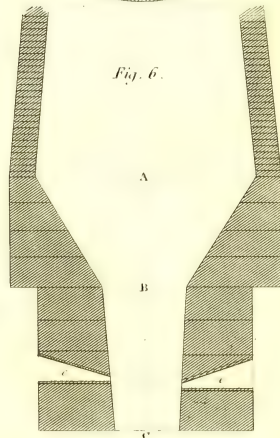


Fig. 6.





BLAST FURNACE.

Fig. 4.

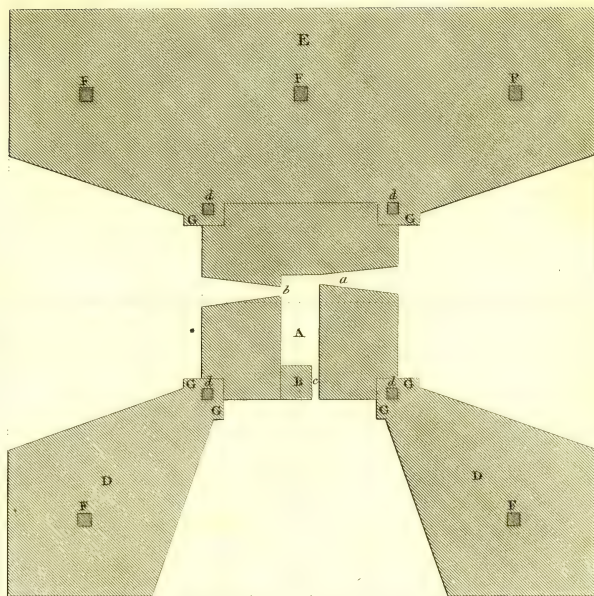


Fig. 1.

A

B

C

I

E

K

F

G

H

Fig. 2.

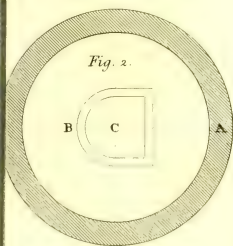


Fig. 3.

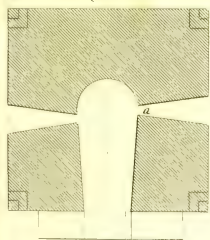


Fig. 5.

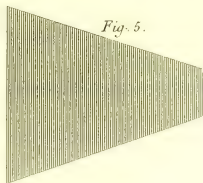


Fig. 6.

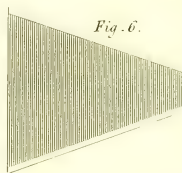


Fig. 10.



Fig. 7.

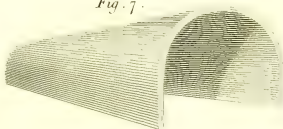


Fig. 8.

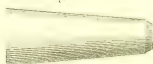


Fig. 9.





BLOWPIPE.

Fig. 1.

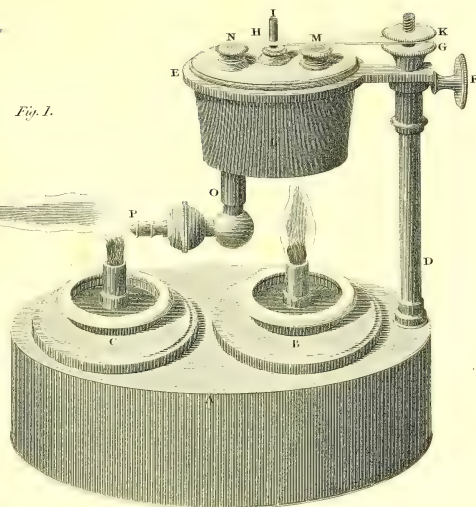


Fig. 2.

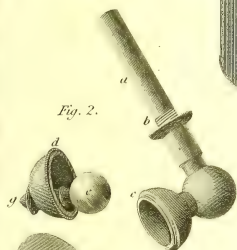


Fig. 7.

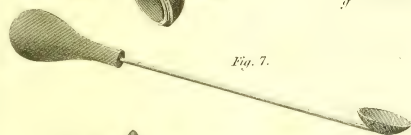


Fig. 6.



Fig. 5.



Fig. 3.



Fig. 4.

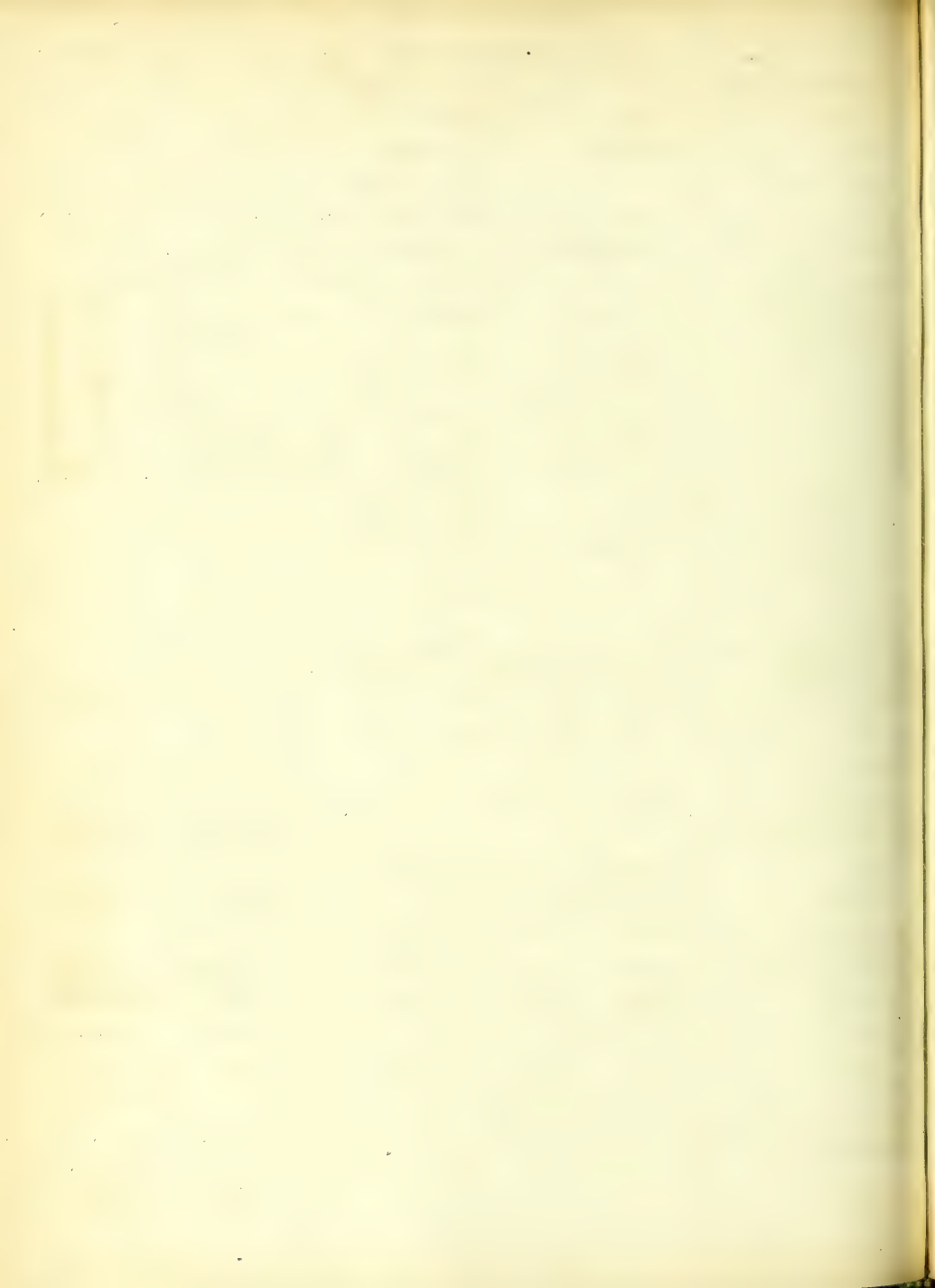


ANCIENT CHEMICAL CHARACTERS.

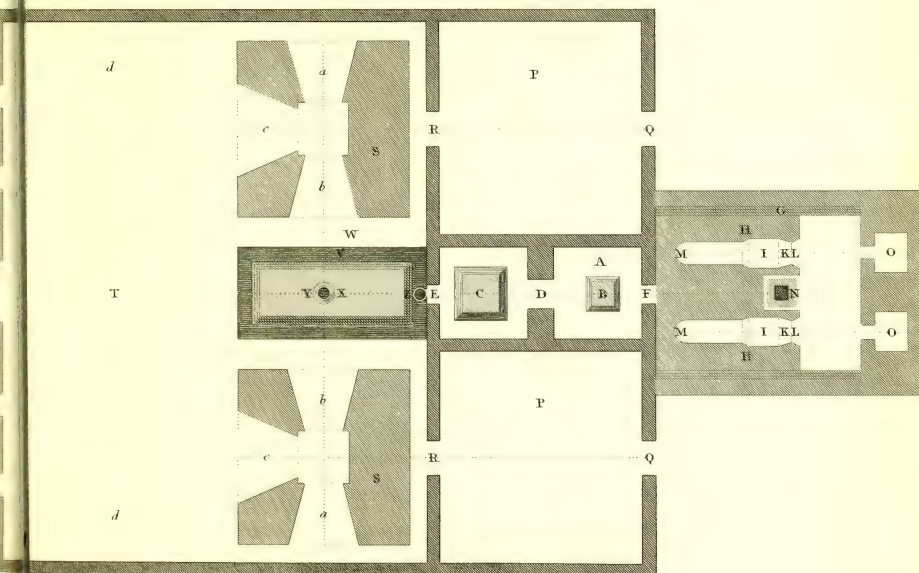
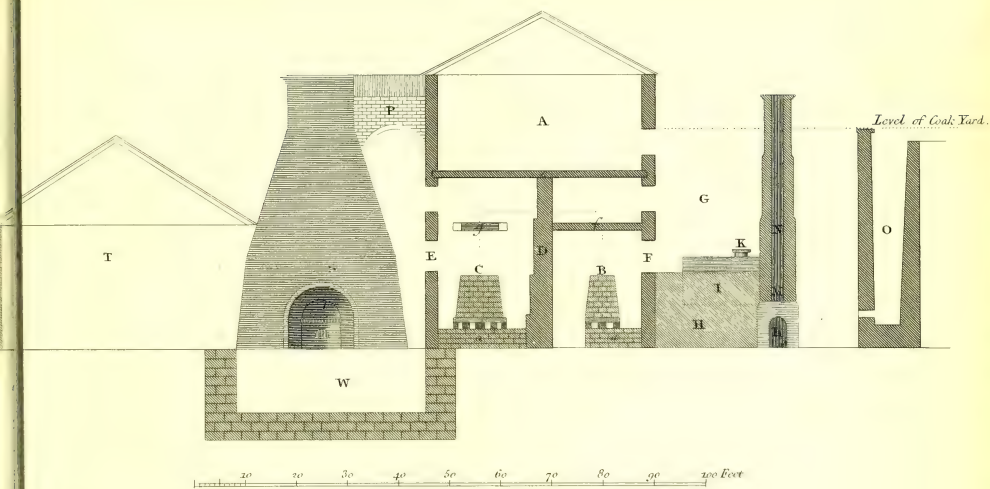
al & Miscellaneous terms	♂ Retorta	X Acetum distillatum	⌘ Talcum
al & Amalgama	♂ Distillare	⊖. ⊖. Nitrum - Natron	⋯ Arena
ale	⌒ Precipitare	⊕ Vitriolum	♀ Calc viva
aput mercurium	⌒ Sublimare	⊖ Sal commune	CC Cornu Cervi
inis	SSS Stratum super Stratum	⊕ Acidum vitriolicum	☐ Alkali
is	Substances	⊕ Acidum Niri	☉ Alkali fixum
ina Essentia	⊙ Aurum	⊕ Acidum Mariaticum	☉ Alkali volatile
iritus	⊙. ⌘ Argentum	⌘ Aer	⊙. ☐ Alumen
egulus	♂ Ferrum	▽ Aqua	⌘ Tartarus
es	♀ Cuprum	▽ Aqua fortis	* Sal ammoniacum
or	♂ Antimonium	▽ Aqua regia	⊖ Sal Gemmae
ensis	♀ Argentum vivum	△ Ignis	☐ Borax
ora	♀ Stannum	▽ Terra	⊕ Aerugo aeris
utments & processes	⌒ Plumbum	⊖. ⊖. Terra vitrificabilis	⊗ Tutia
ucibulum	⊖ Arsenicum	⊖. ⊖. Terra fusibilis	⌘ Sulphur
tembicum	⊖ Auripigmentum	⊖ Vitrum	☐ Urina
uphora	⊕ Annabaris	▽ Argilla	V Vinum
alucum	X Acetum - Acidum	▽ Gypsum	▽ Spiritus vini
abrum Maris			⊖ Oleum

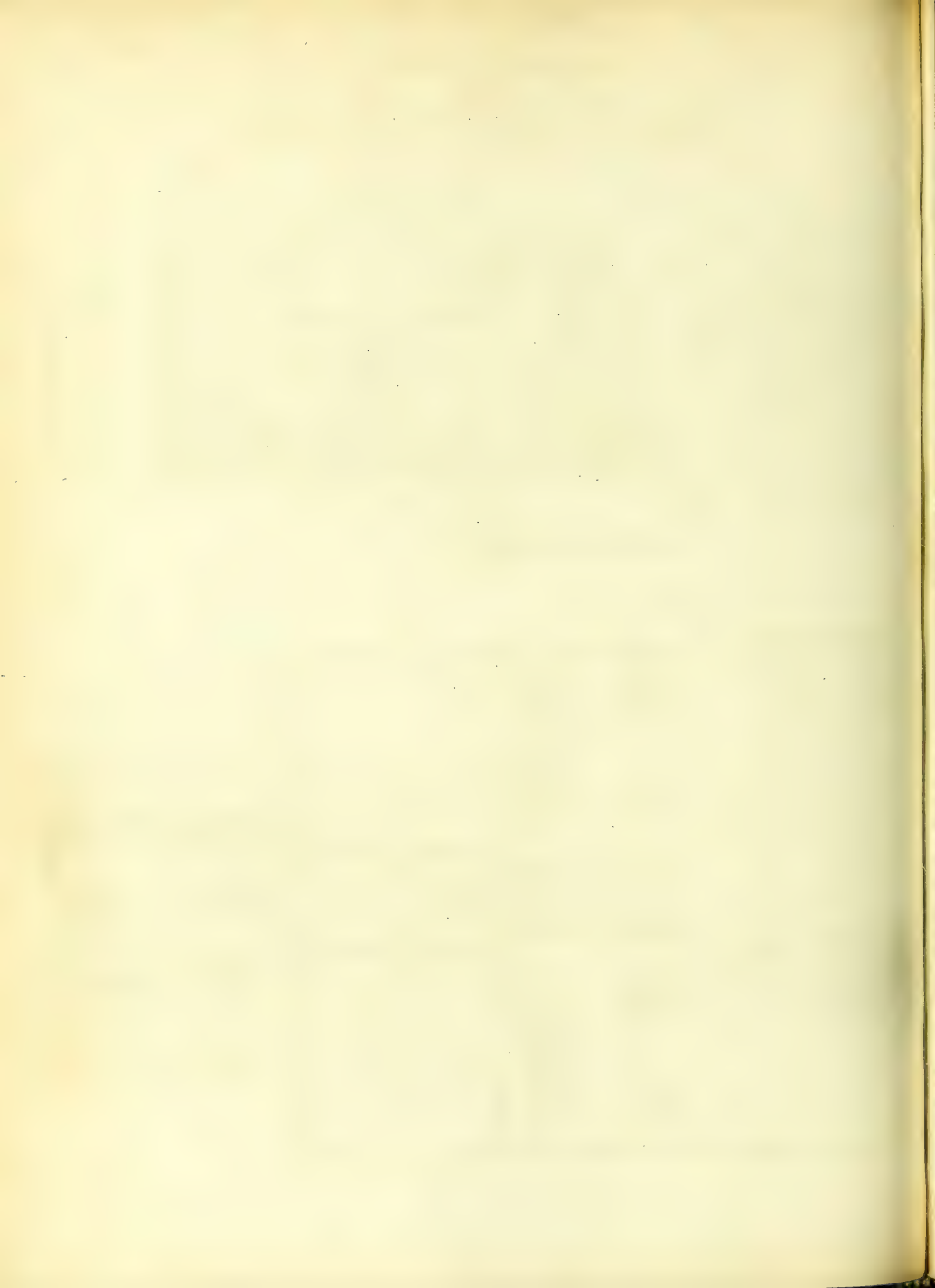
BERGMAN'S CHEMICAL CHARACTERS.

acid	⊖ Sugar of milk	▽ Clay	♂ Iron
alkali	⌘ Distilled vinegar	⌘ Silice	♀ Tin
alcohol	⊖ Milk	▽ Water	⊖ Bismuth
alogiston	f Ants (Formica)	△ Vital air	⊖ Nickel
aphlogisticated	⊖ Fat	△ Matter of Heat	⊖ Arsenic
itre	⌘ Phosphorus	⌘ Sulphur	⊖ Cobalt
in salt	⊖ Prussian blue	▽ Spirit of wine	⊖ Zinc
qua regia	▽ Fixed	⊖ Ether	♂ Antimony
thior	⌘ Volatile	⊖ Essential oil	⊖ Manganese
torax	v Vegetable	⊖ Expressed oil	Examples of Combination
ugar	m Mineral - Acid	⊖ Gold	⊖ Pure fixed vegetable alkali
urtur	p Pure	⊖ Platina	⊖ Vitriolated fixed -
orrel	c Lime (Calc) Caustic	⊖ Silver	- vegetable alkali
emon (Citrus)	♀ Barytes	♀ Mercury	♀ ♂ Calc of Iron
encer	♀ Lime - Metallic calx	b Lead	⊖ Mercury sublimate
huber	♀ Magnesia	♀ Copper	⊖ Dephlogisticated Maridic acid

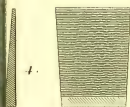
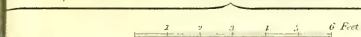
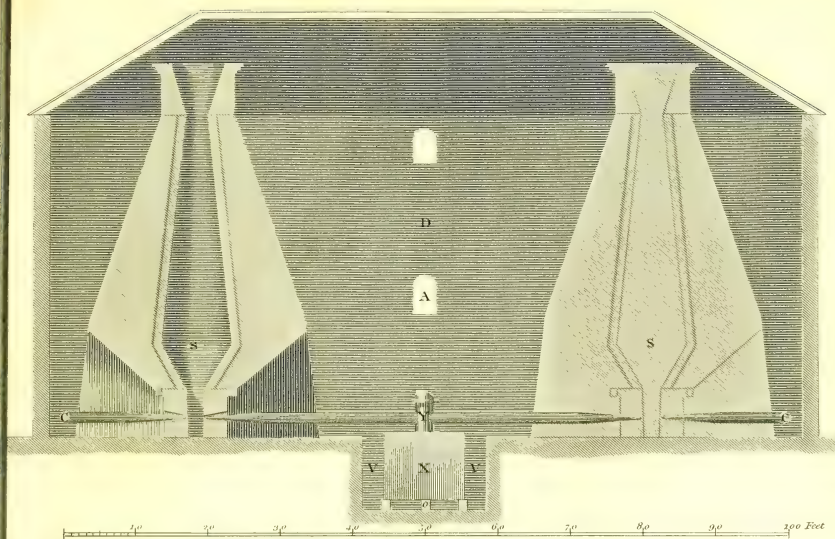


BLAST FURNACE WORKS.

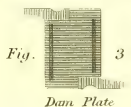




BLAST FURNACE WORKS.



Tump Plate



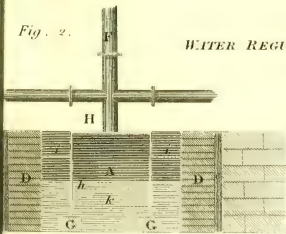
Dam Plate



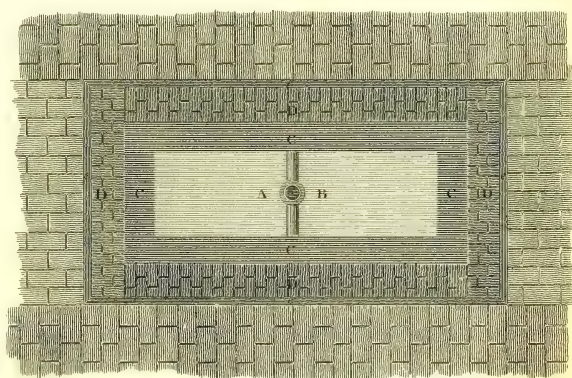
Dam Stone

Fig. 2.

Fig. 1.



WATER REGULATOR



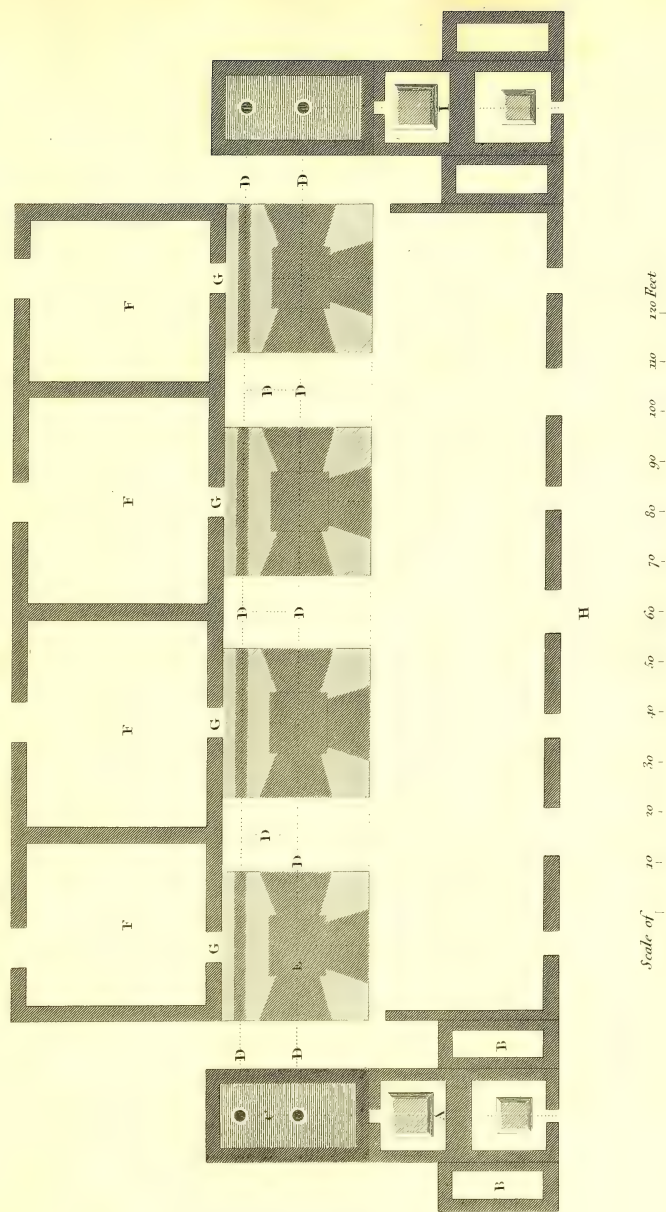




Fig. 1.

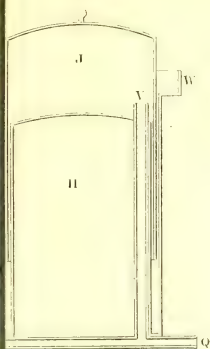


Fig. 2.

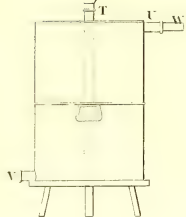
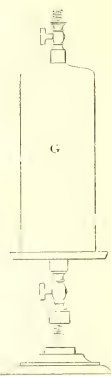
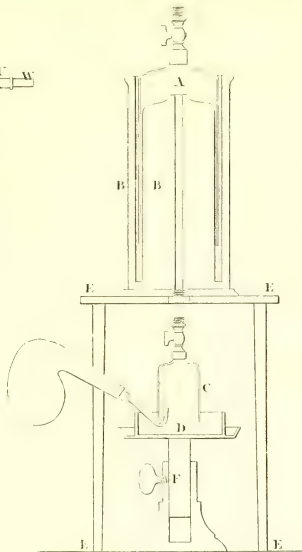


Fig. 3.



SHOE LAMP.

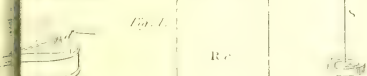


Fig. 4.

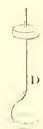
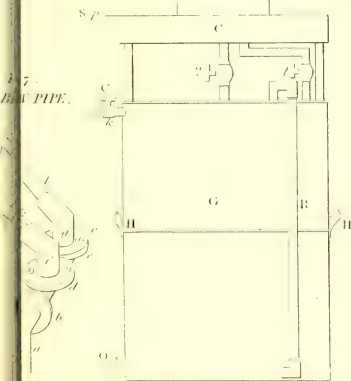
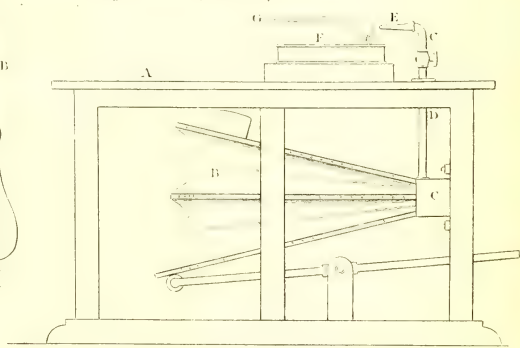
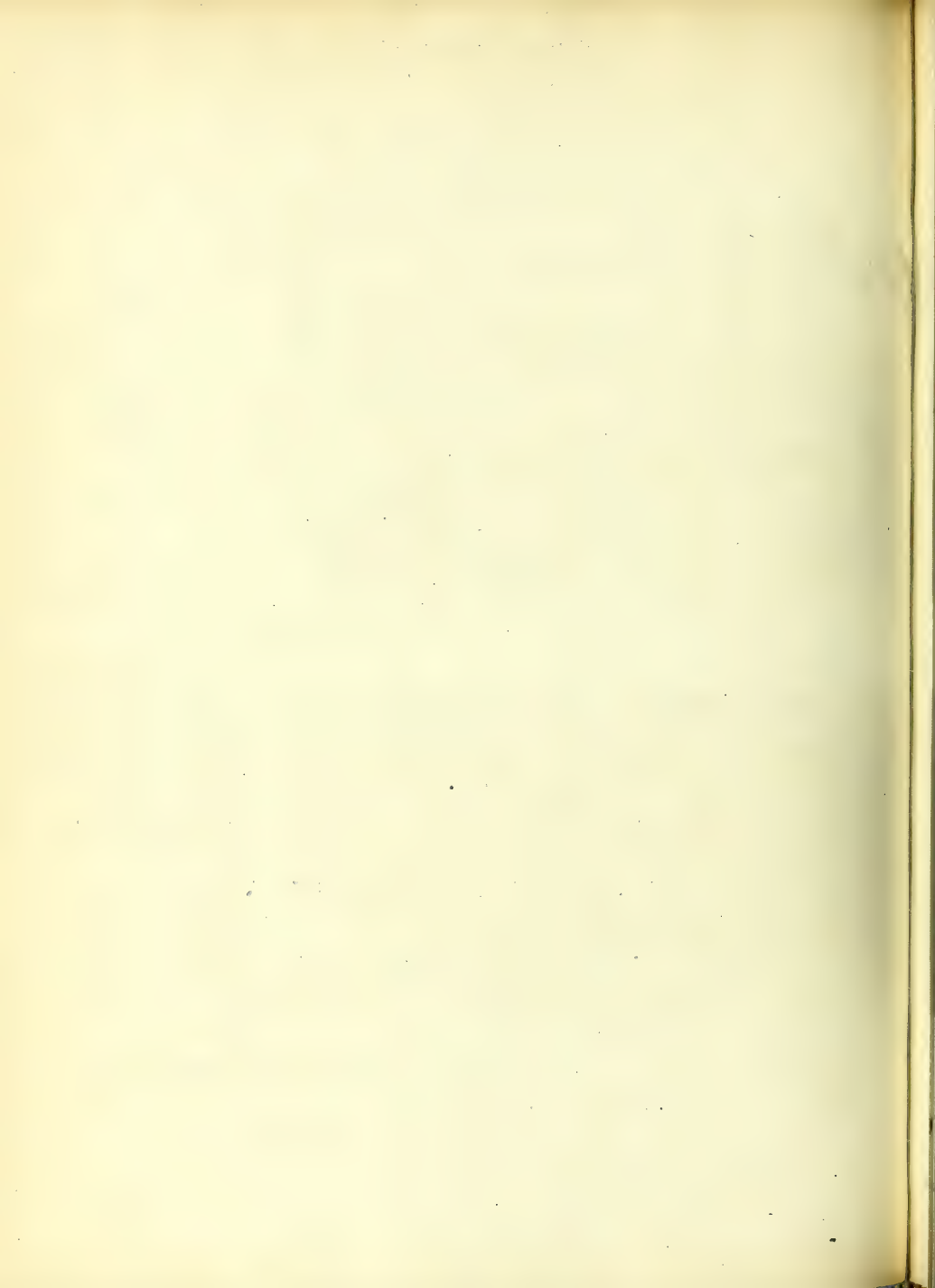


Fig. 5. Glass Blower's Lamp.





AIR VAULT.

Fig. 1.

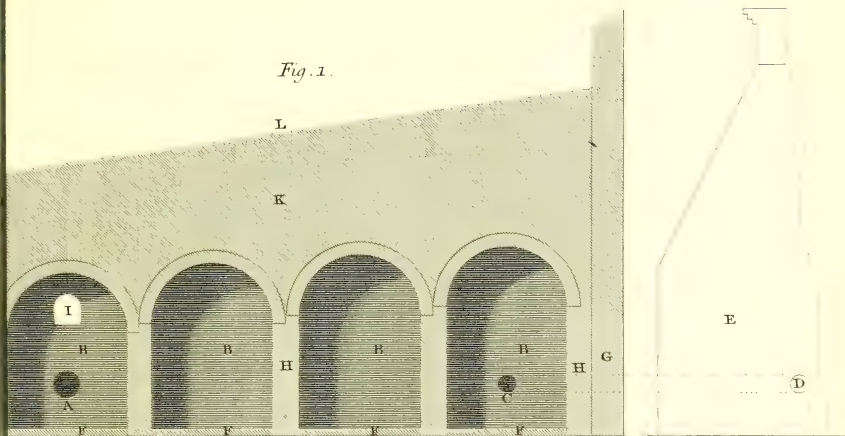
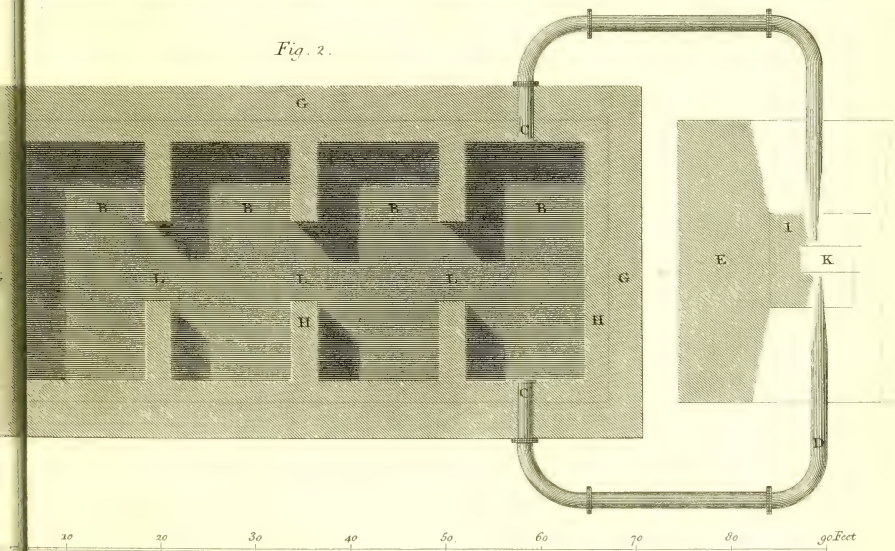
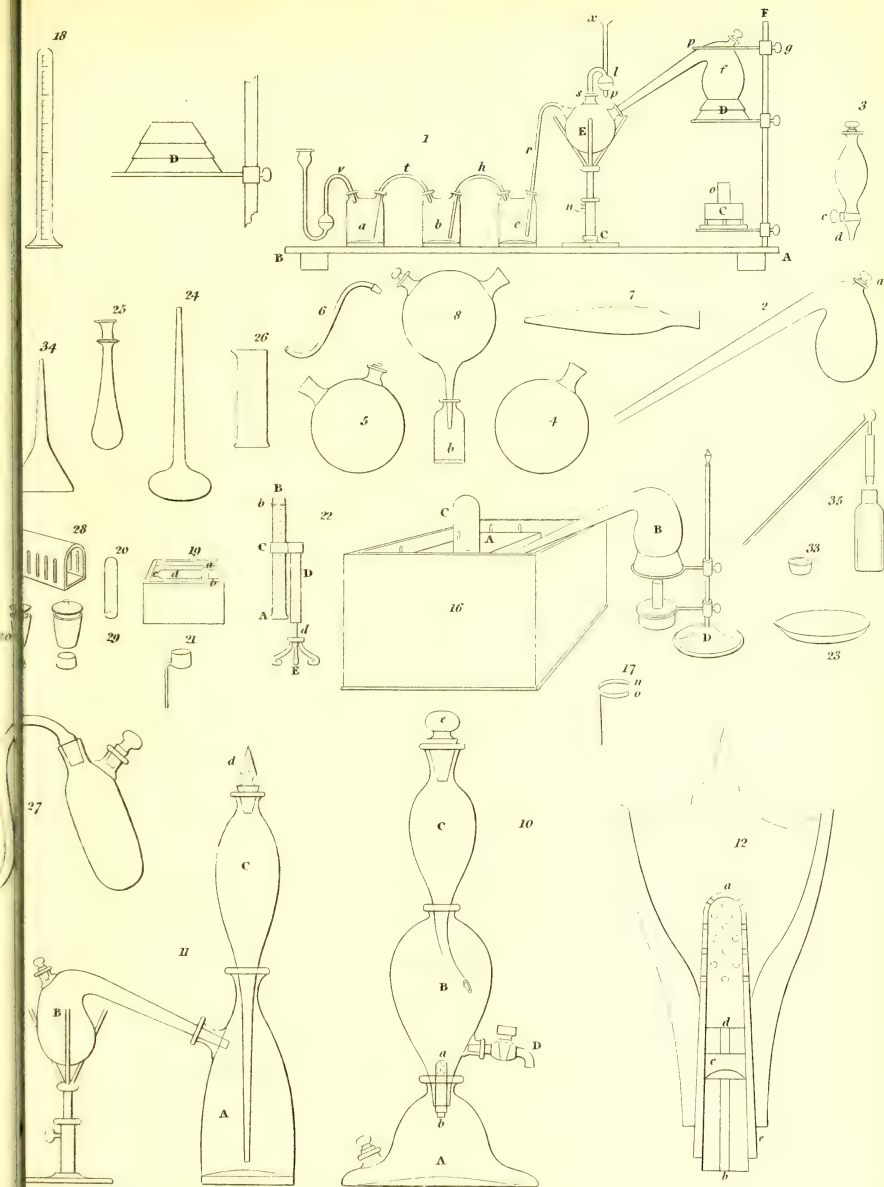


Fig. 2.



10 20 30 40 50 60 70 80 90 Feet



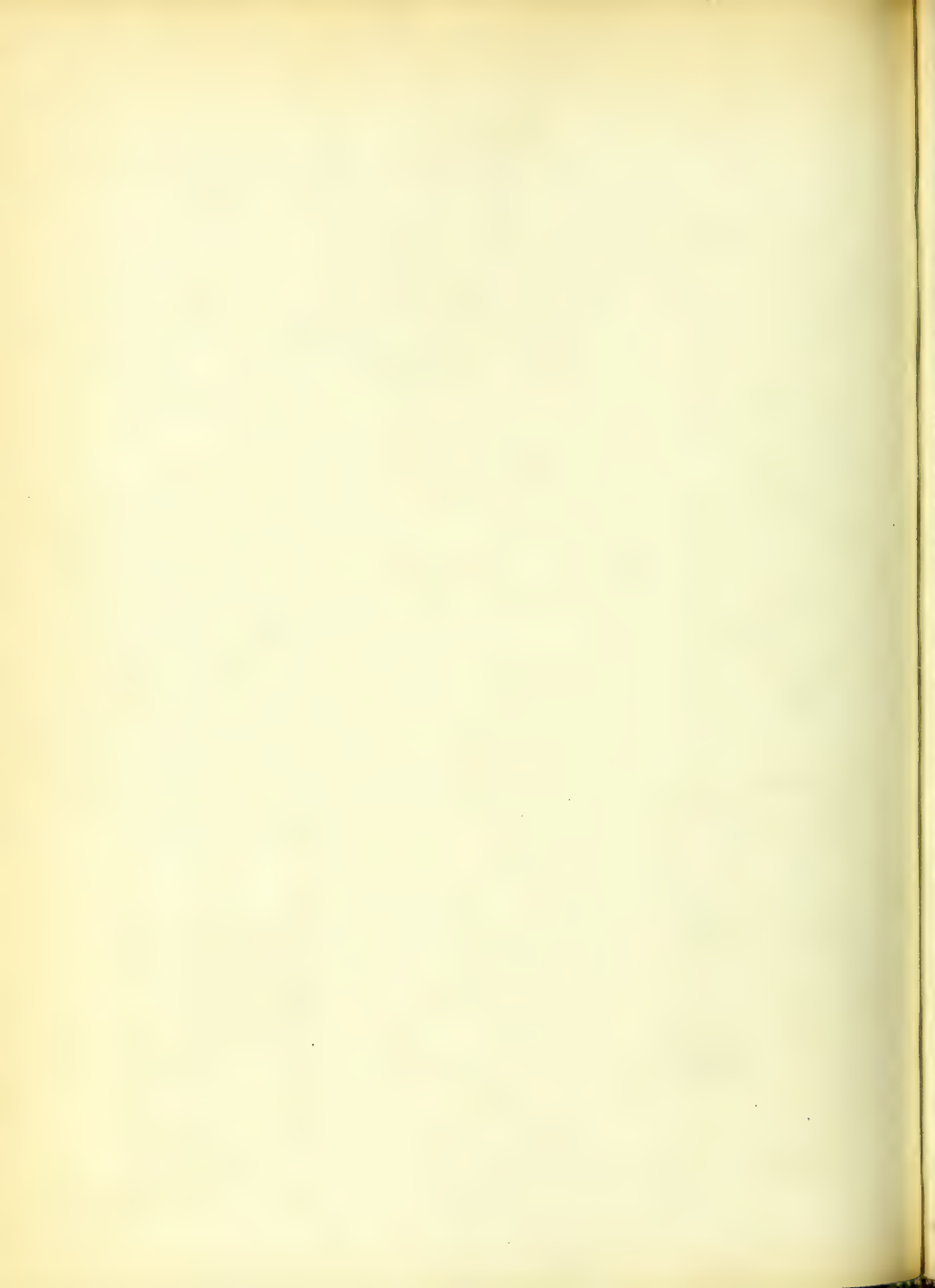


Fig. 15.

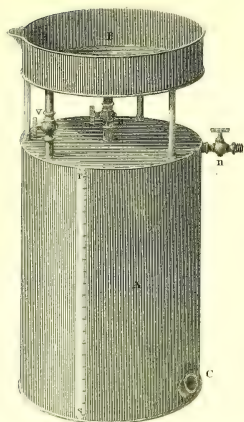


Fig. 9.

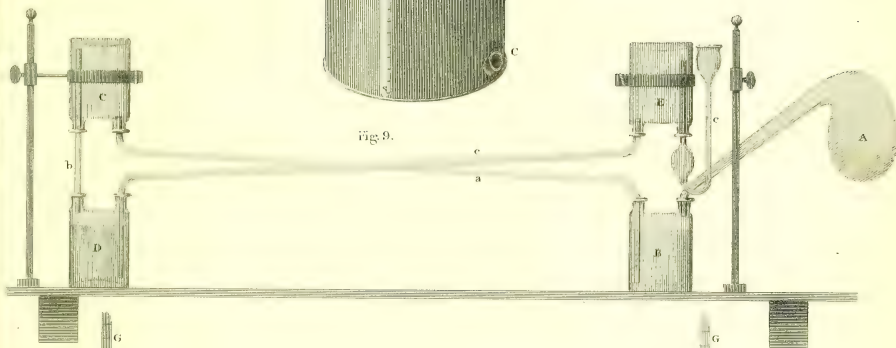


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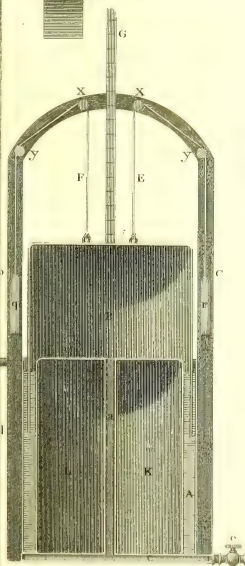
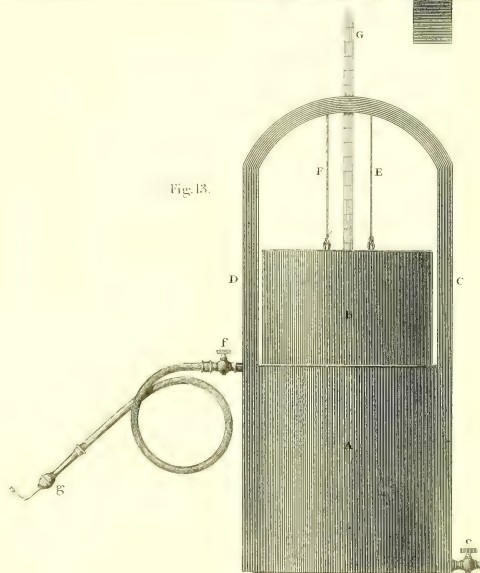
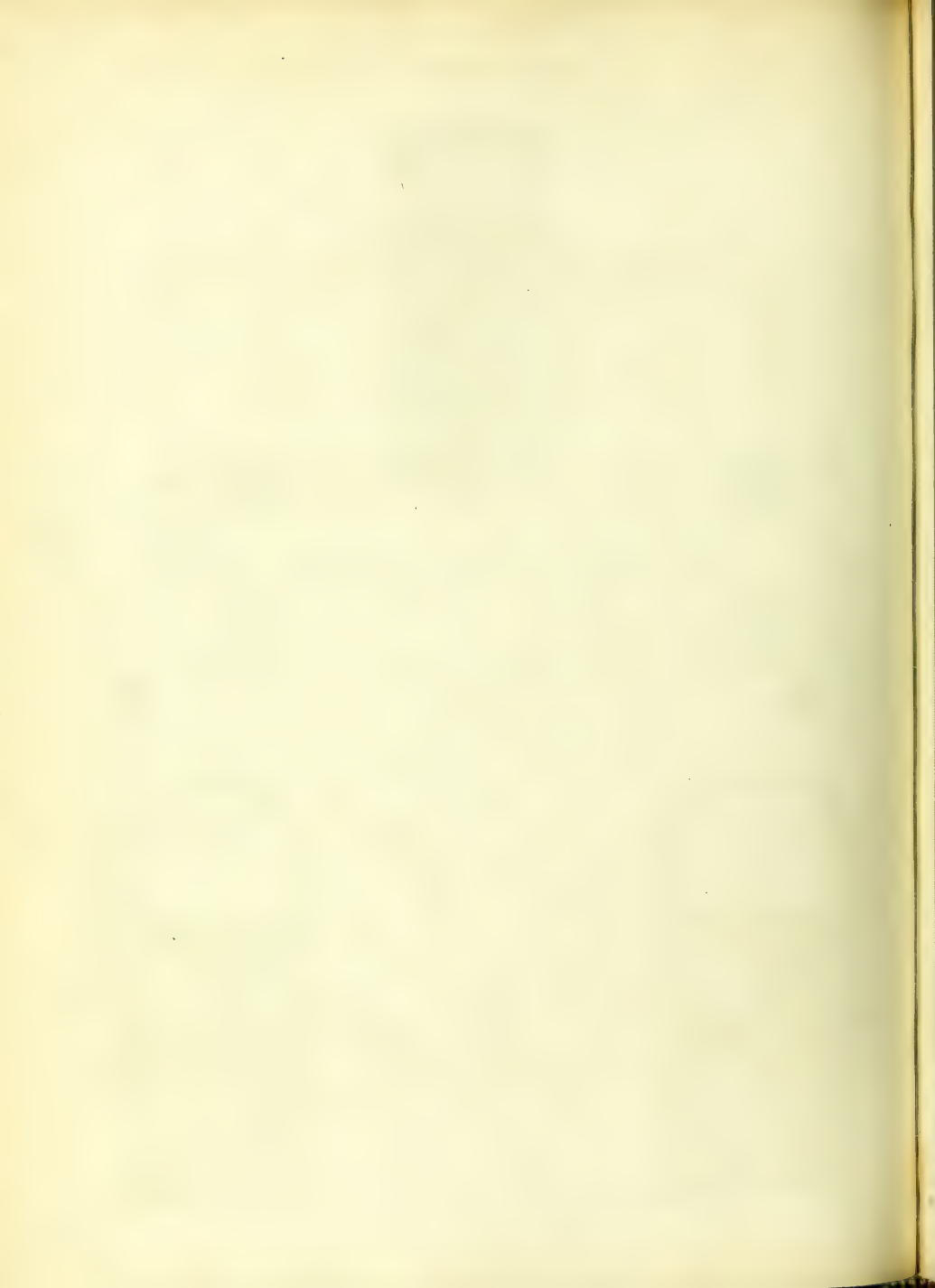
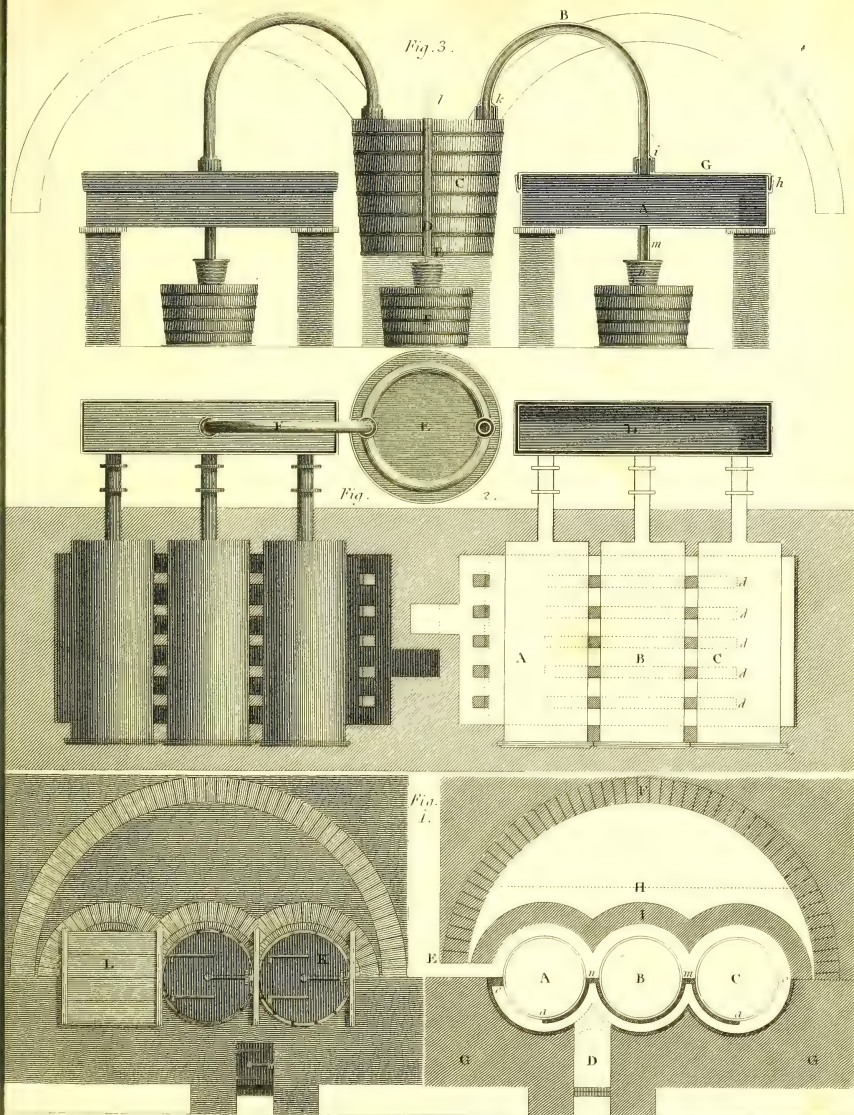


Fig. 13.





APPARATUS FOR THE DISTILLATION OF PYROLIGNEOUS ACID.



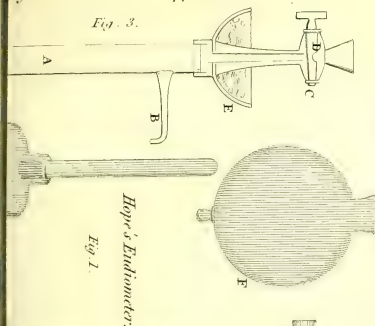


Fig. 3.

Hoppe's Endometer.

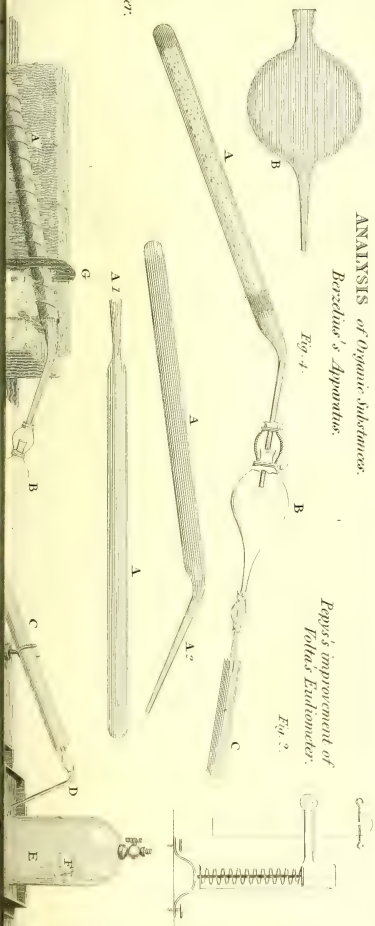


Fig. 4.

Fig. 5.

Dr. Wollaston's Scale of Chemical Equivalents.

CHEMICAL.

EQUIVALENTS.

Oxygen

Abbreviations.

Water

d. dry.

10 Hydrogen

c. crystallized.

Phosphorus

Or. Oxid.

2 Oxygen

M. Muriate.

Calcium

N. Nitrate.

Sodium

S. Sulphate.

Iron

W. Water.

Phosphoric acid

Acid.

Copper

Sulphur

Chlorine

Ammonia

Muriatic gas

2 Water

Sulphuric acid

Carbonic acid

5 Oxygen

Or. Oxid.

2 Carbonic acid

6 Oxygen

6 Oxygen

Or. Oxid.

(a) Nitric acid

Or. Oxid.

10 Carbon

Sub Carb. Soda (d)

Sub Carb. Potash

Liquid Nitric acid

Barytes

(s. 6.1.30)

(d) Nitric acid

N. Lime

N. Soda

S. Soda

S. Strontia

Or. Oxid.

Be Carb. Potash

M. Muriate

Mercury

Or. Oxid.

Litharge

Or. Oxid.

Bin-Oxid Potash

S. Barytes

(or) Cap. M. Potash

S. Magnesia

(or) S. Copper

S. Lead

Germe Sublimat

X. Barytes

Phosph. Lead

Or. Oxid.

Mur. Silver

S. Lead

S. Lead

(or) W. S. Soda

2 Mercury

Protoxid

Protoxid

Calowal (2 1/2)

Fig. 5.

CHEMICAL

EQUIVALENTS.

Oxygen

Abbreviations.

Water

d. dry.

10 Hydrogen

c. crystallized

Phosphorus

Or. Oxid.

2 Oxygen

Carb. Carbonate.

Calcium

M. Muriate.

Sodium

N. Nitrate.

Iron

S. Sulphate.

Phosphoric acid

W. Water.

Copper

Acid.

Chlorine

Sulphur

Muriatic gas

Ammonia

Carbonic acid

2 Water

5 Oxygen

Magnesia

(a) Nitric acid

Carbonic acid

6 Oxygen

Muriatic acid (d)

Or. Oxid.

Lime

Sub Carb. Potash

Nitric gas

Liquid Nitric acid

Soda

Barytes

Zinc

(s. 6.1.30)

Or. Iron

N. Lime

Muriatic gas

S. Soda

Or. Oxid.

Or. Oxid.

Sub Carb. Ammonia

Sub Carb. Soda (d)

Or. Oxid.

Sub Carb. Potash

Or. Oxid.

Liquid Nitric acid

Or. Oxid.

Barytes

Or. Oxid.

N. Lime

Or. Oxid.

S. Soda

Or. Oxid.

M. Potash

Or. Oxid.

Be Carb. Soda

Or. Oxid.

Mercury

Or. Oxid.

Or. Oxid.

Or. Oxid.

Or. Oxid.

Or. Oxid.

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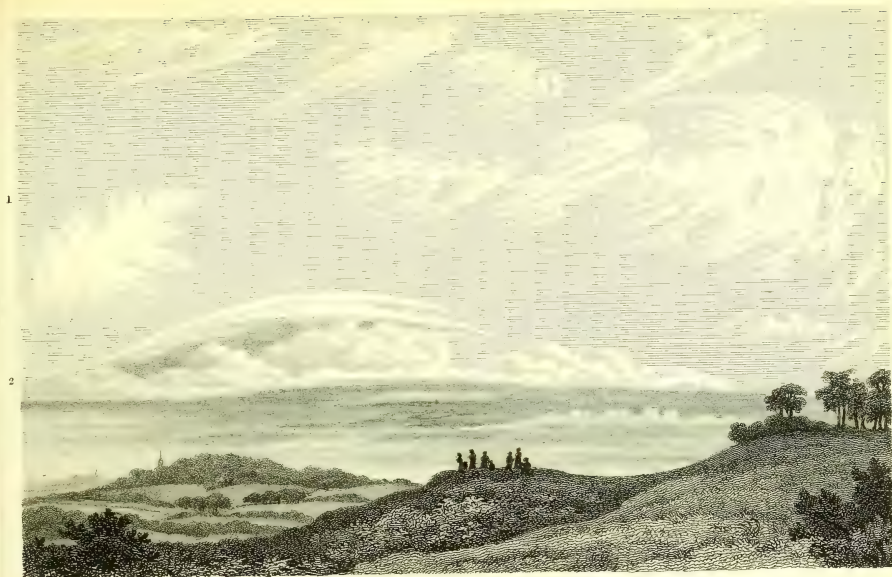
Or. Oxid.

Or. Oxid.

Or. Oxid.

Or. Oxid.





Engraving del.

1. Cirrus in different forms 2. Cirro-stratus, subsiding on Cumuli beneath 3. Cirrus, as seen before Thunder 4. Cirro-cumulus, as seen before Thunder.

5. A Nimbus, flanked by Cirro-stratus, and giving an Electrical discharge 6. A range of Cumuli, passing to Cumulo strati, before Thunder.

Published as the Art unites join. See by Lemanon, Isaac, Rosa Vime & W. P. H. Editors after Hon

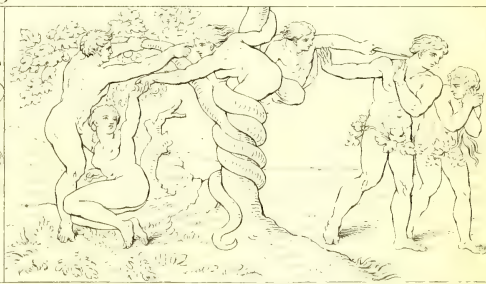
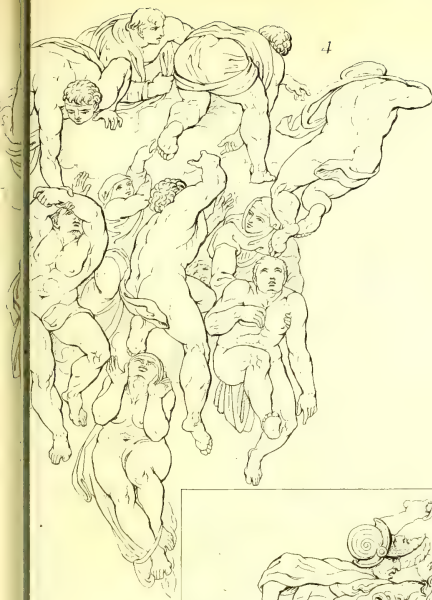




1. Cirro-stratus. 2.3. distant Cirri-strati. 3.3. Cirrus passing to Cirro-cumulus. 4. Cirro-stratus. Cumulus and Cumulo-stratus grouped.

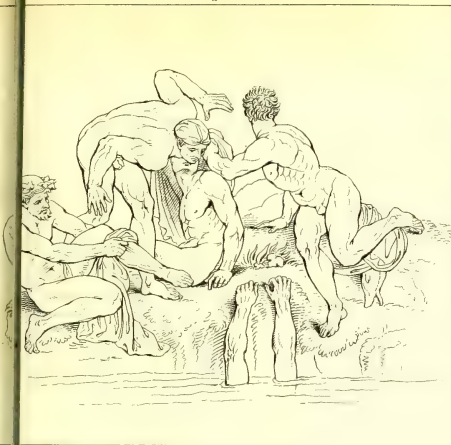
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2



6



3

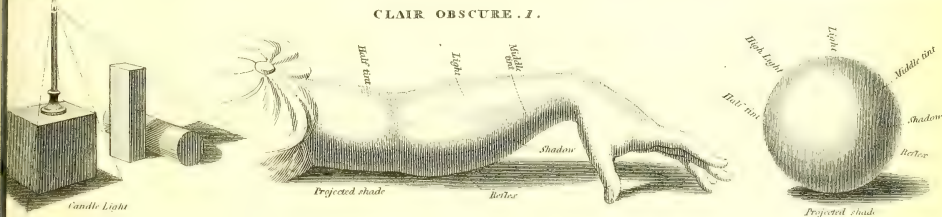


van Bombrandt



From J. de Vinci

CLAIR-OBSCURE. I.





ASYMPTOTE.

AMBIGENAL.

Fig. 1.

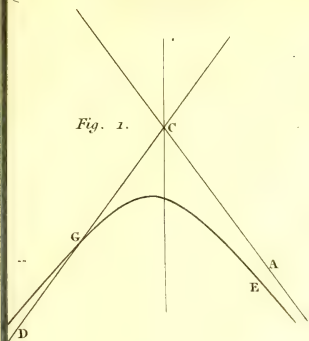


Fig. 2.

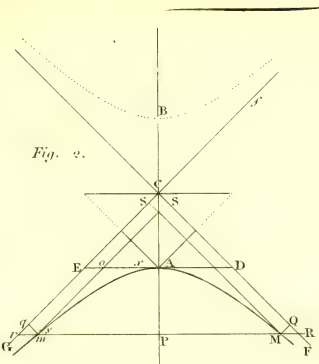
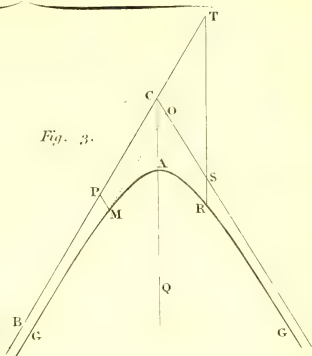


Fig. 3.



CONE.

Fig. 4.

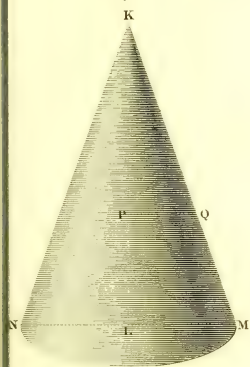


Fig. 5.

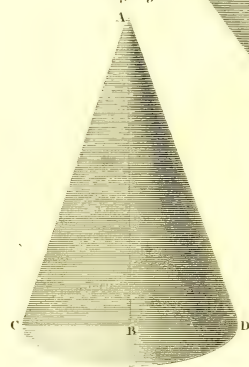


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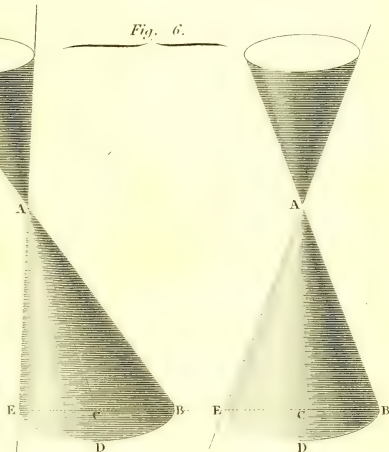


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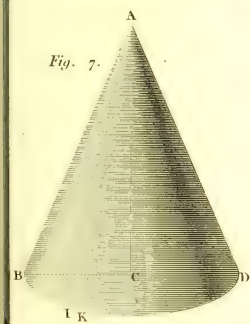


Fig. 8.

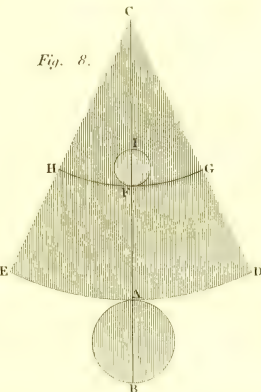


Fig. 9.

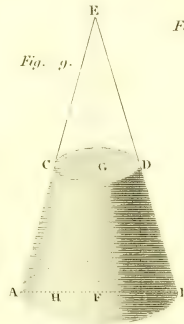
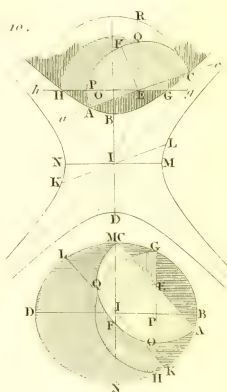
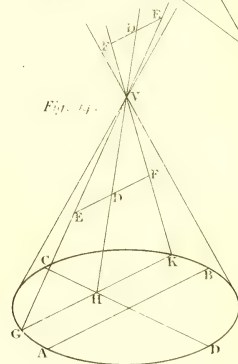
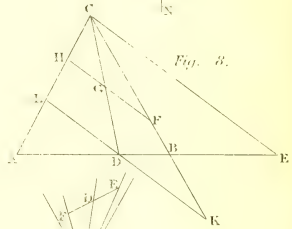
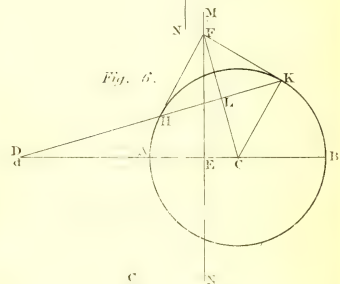
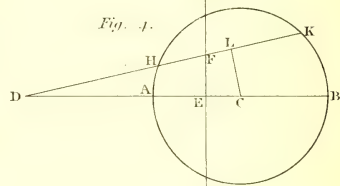
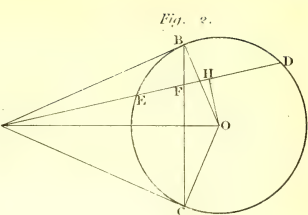
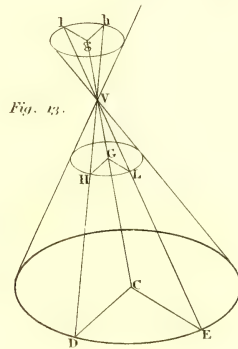
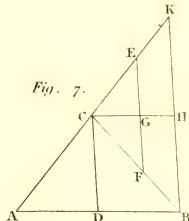
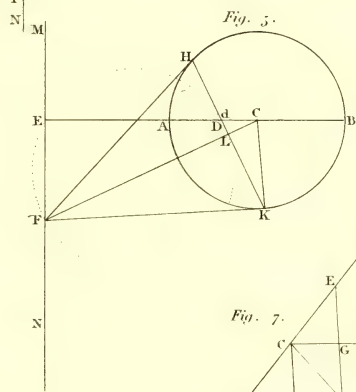
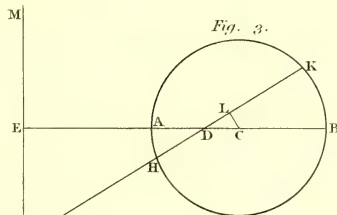
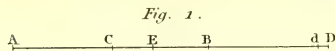
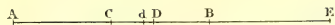
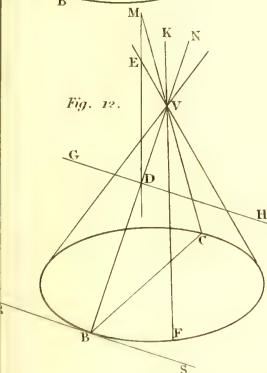
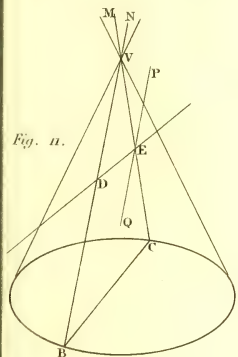
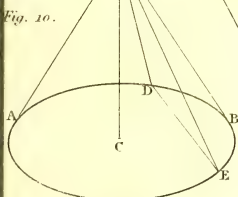
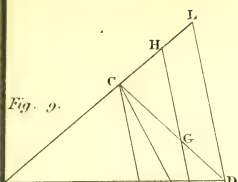
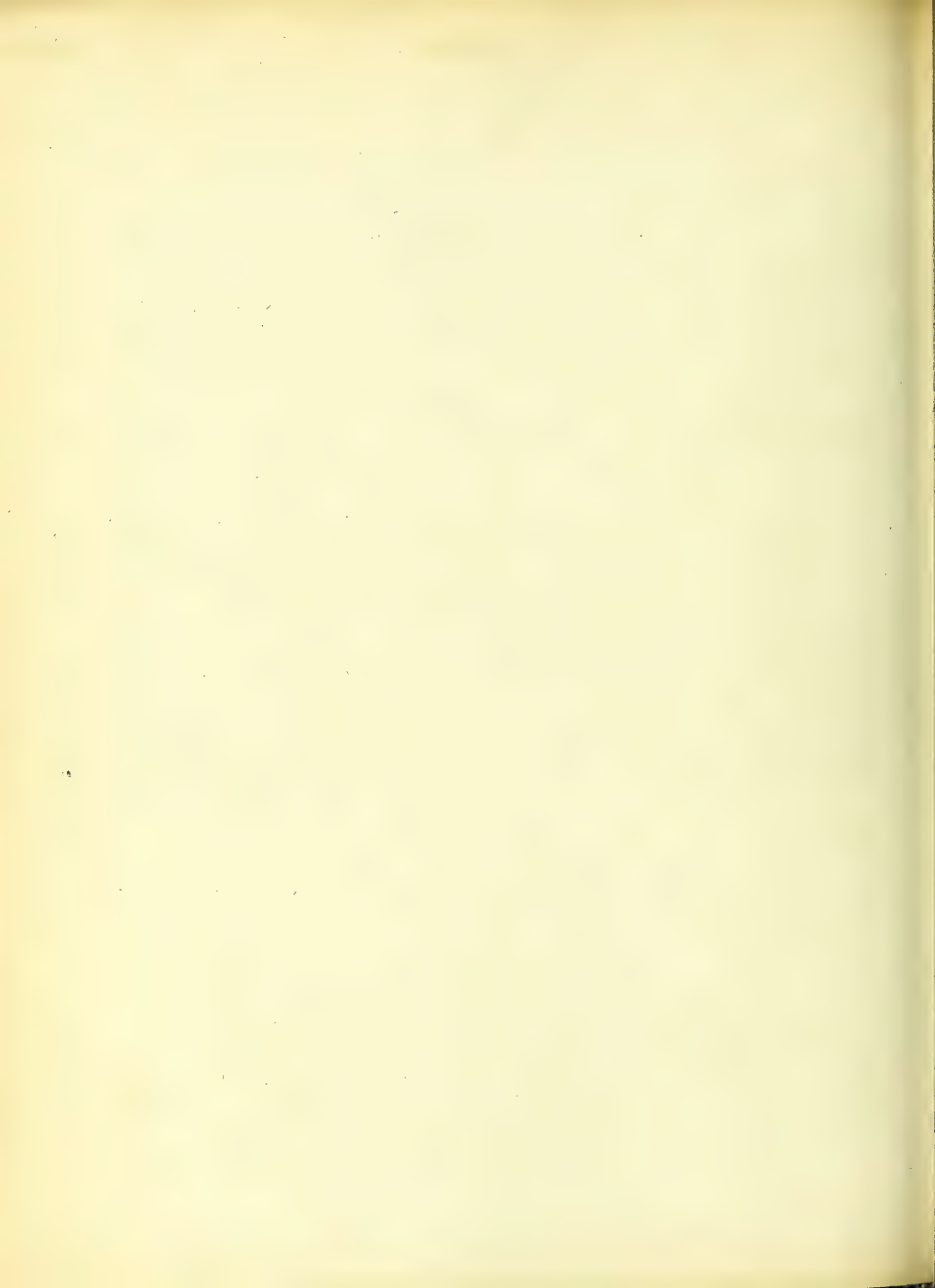


Fig. 10.









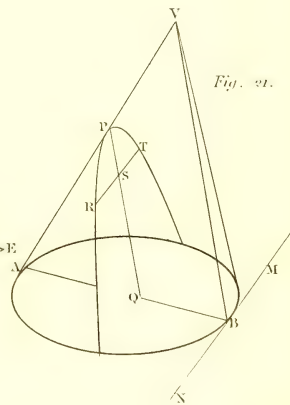
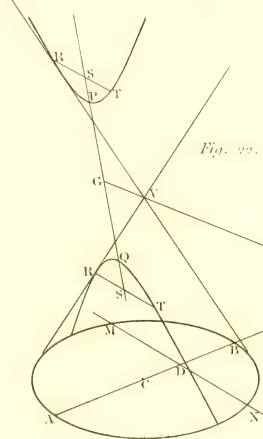
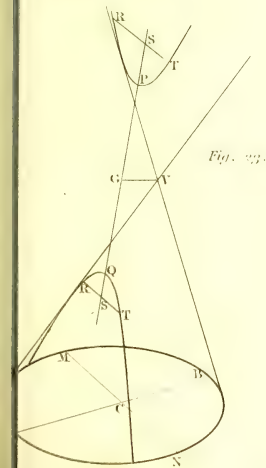
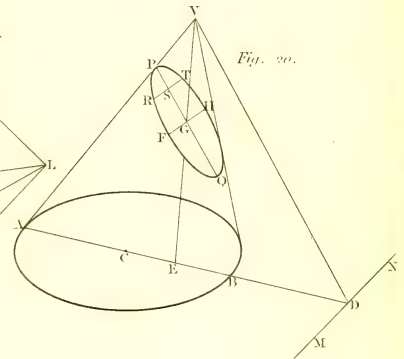
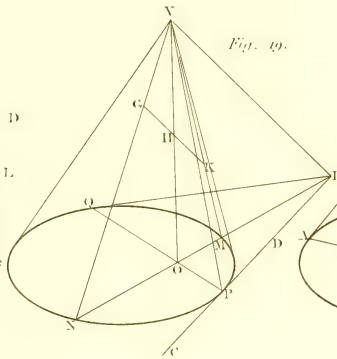
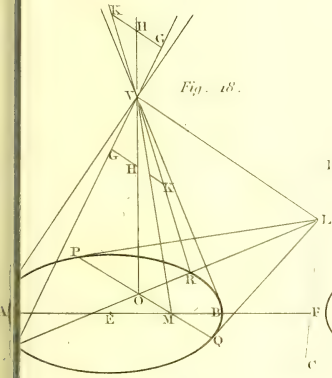
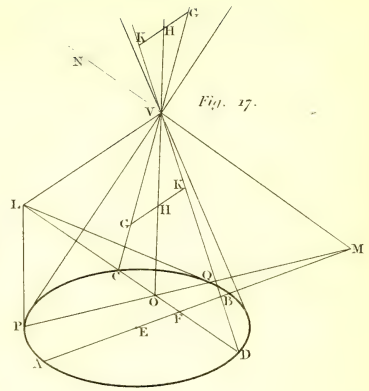
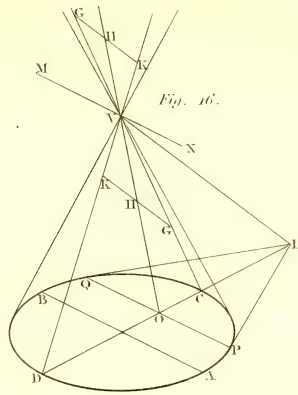
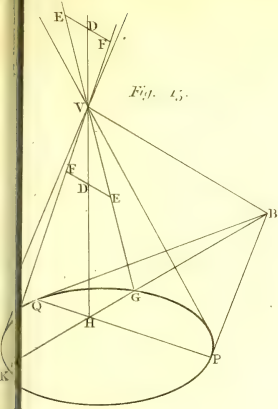




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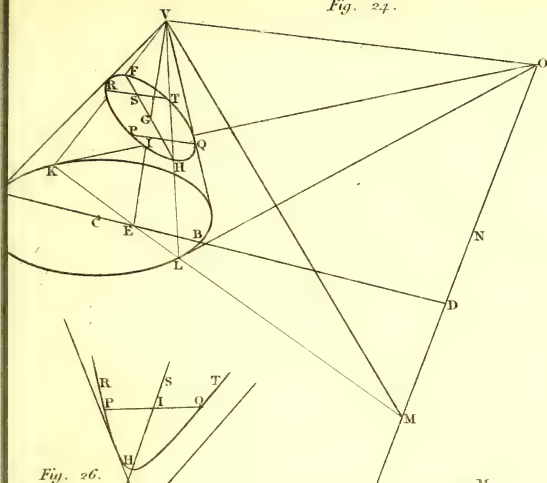


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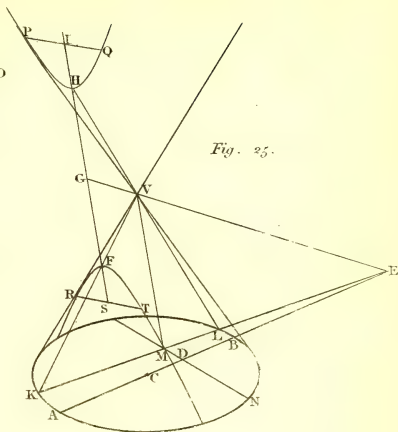


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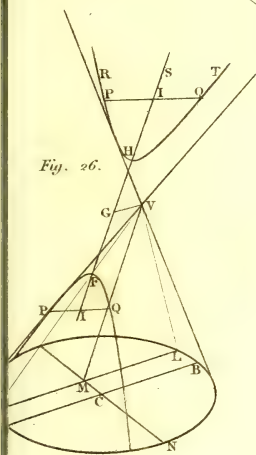


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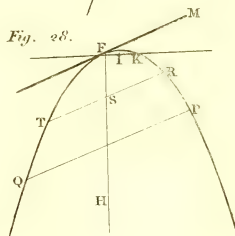


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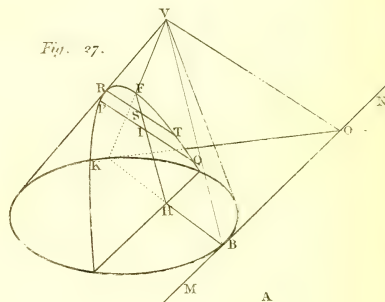


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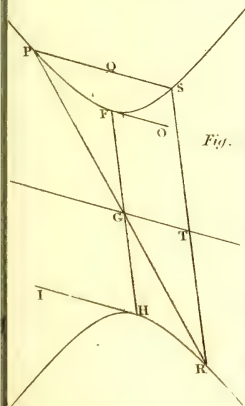


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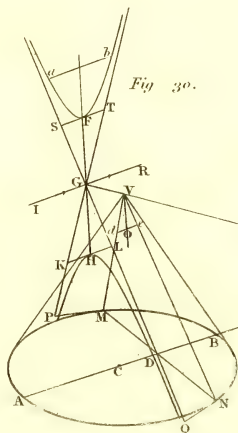
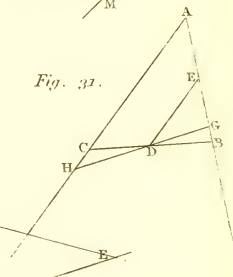
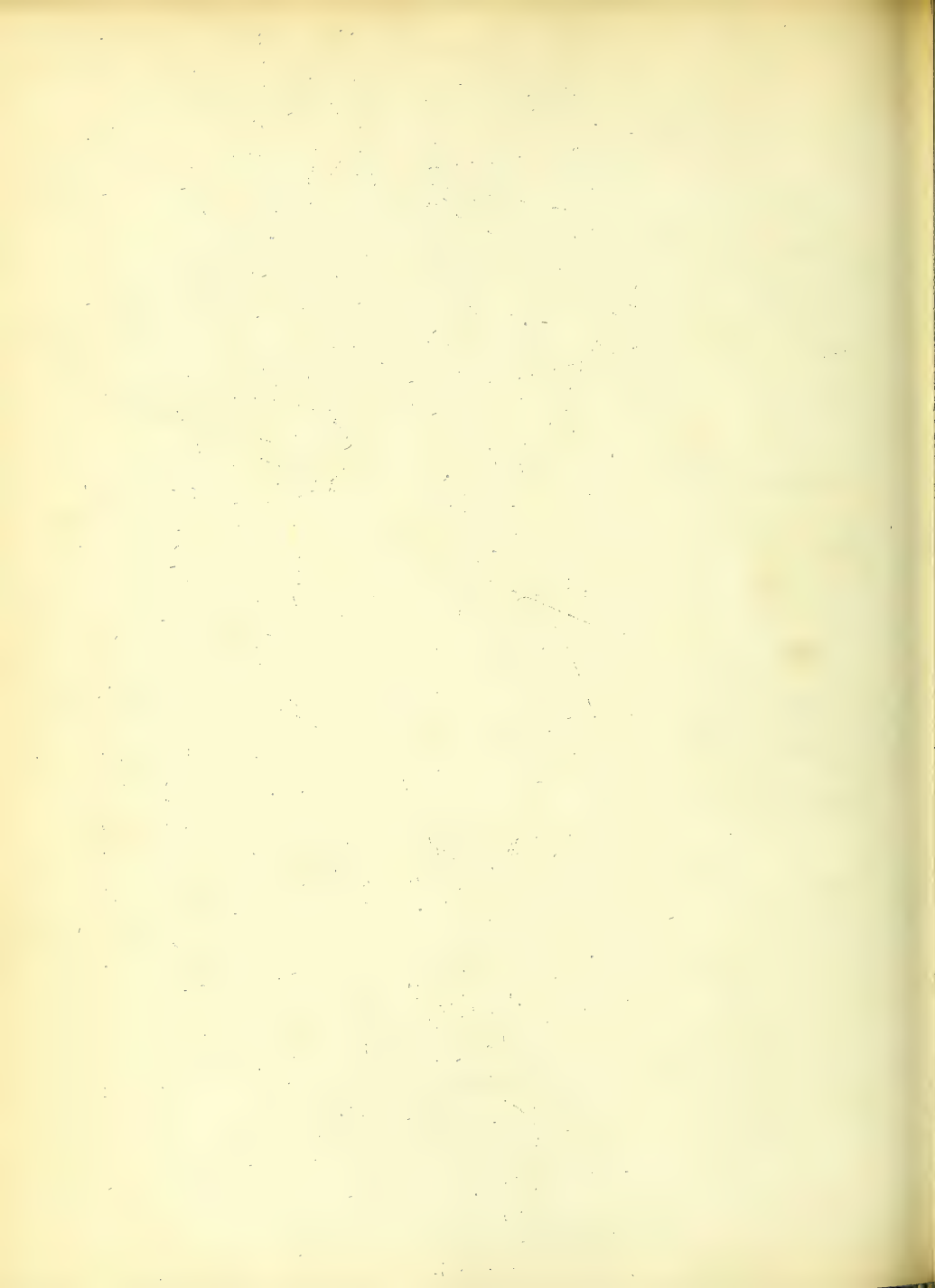
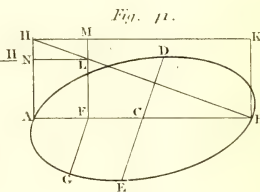
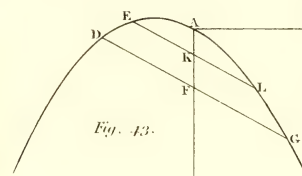
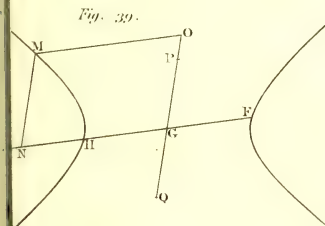
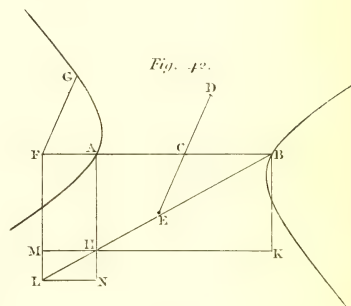
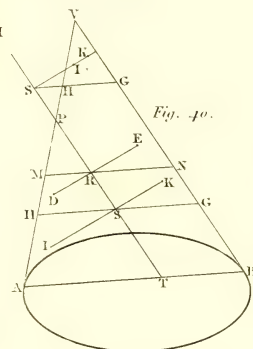
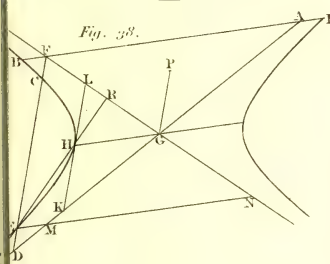
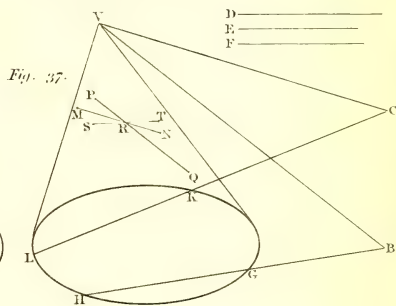
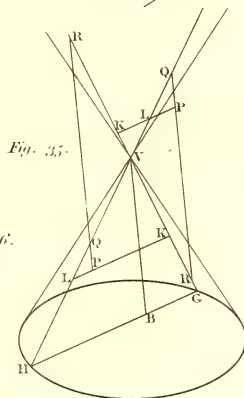
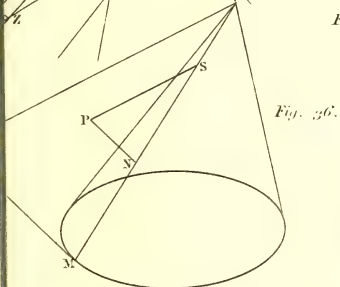
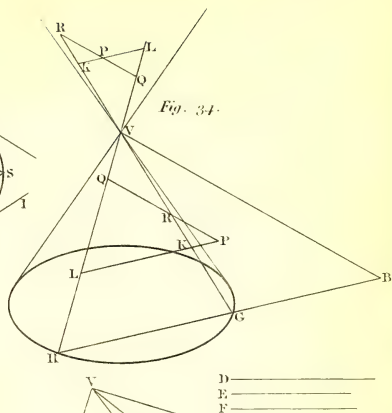
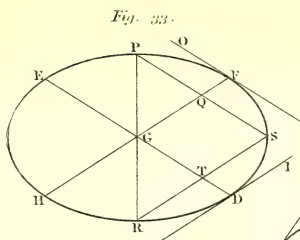
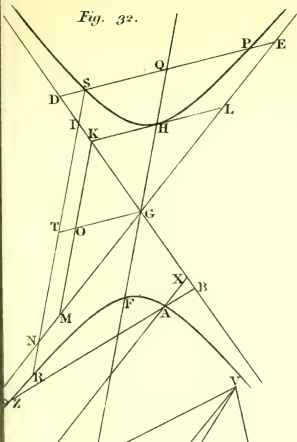
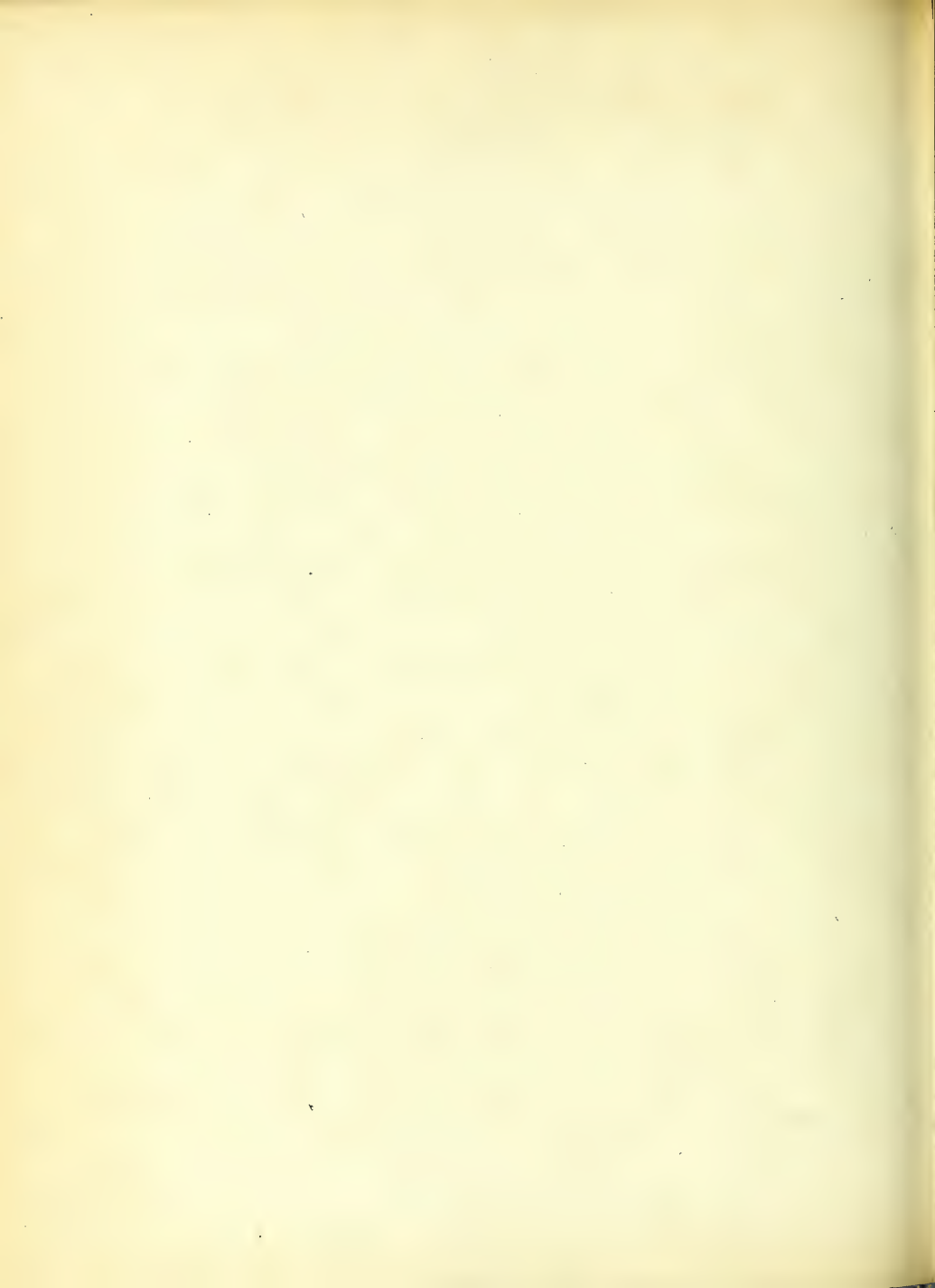


Fig. 31.









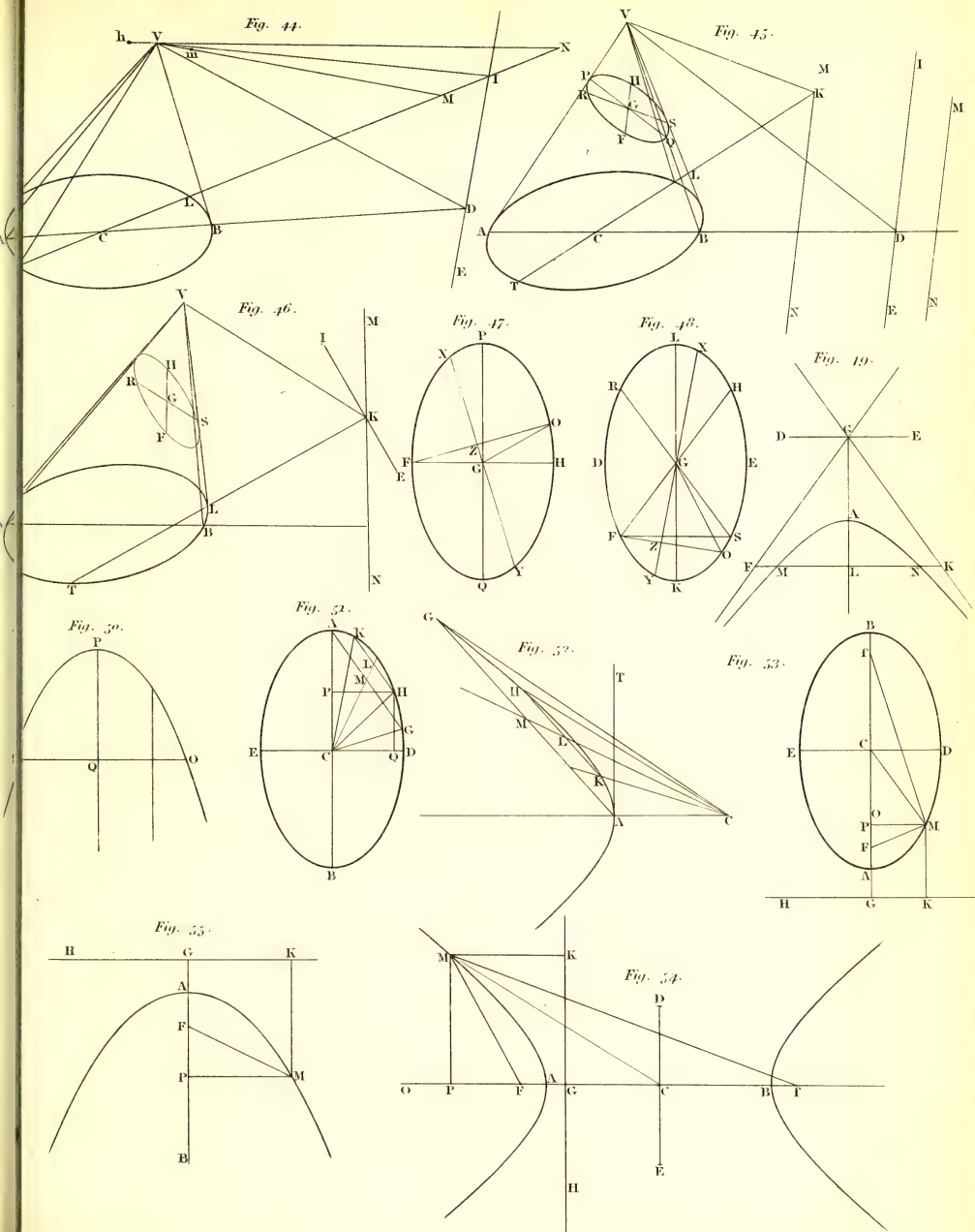




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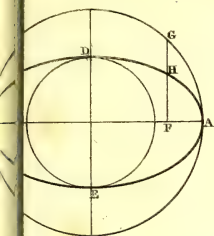


Fig. 5.

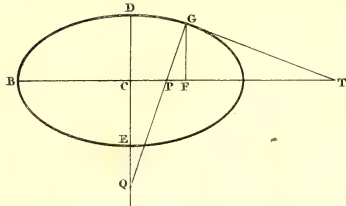


Fig. 9.

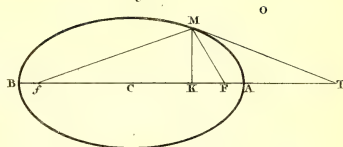


Fig. 10.

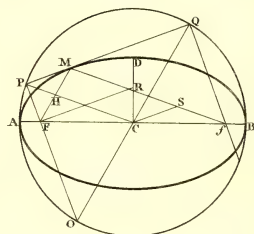


Fig. 2.

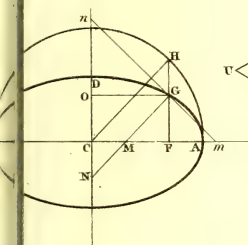


Fig. 6.

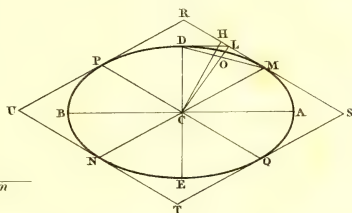


Fig. 11.

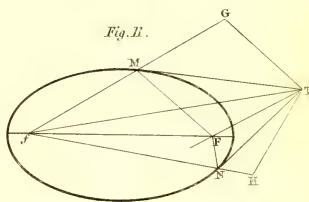


Fig. 3.

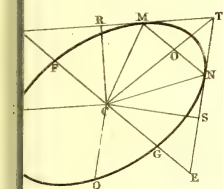


Fig. 7.

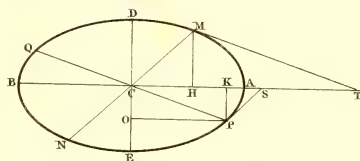


Fig. 12.

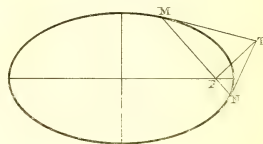


Fig. 4.

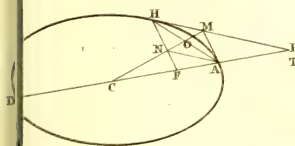


Fig. 8.

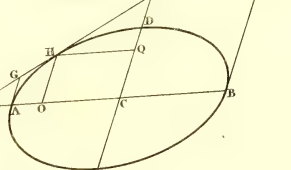
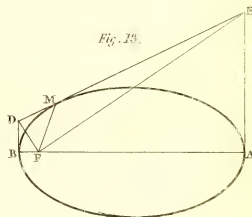
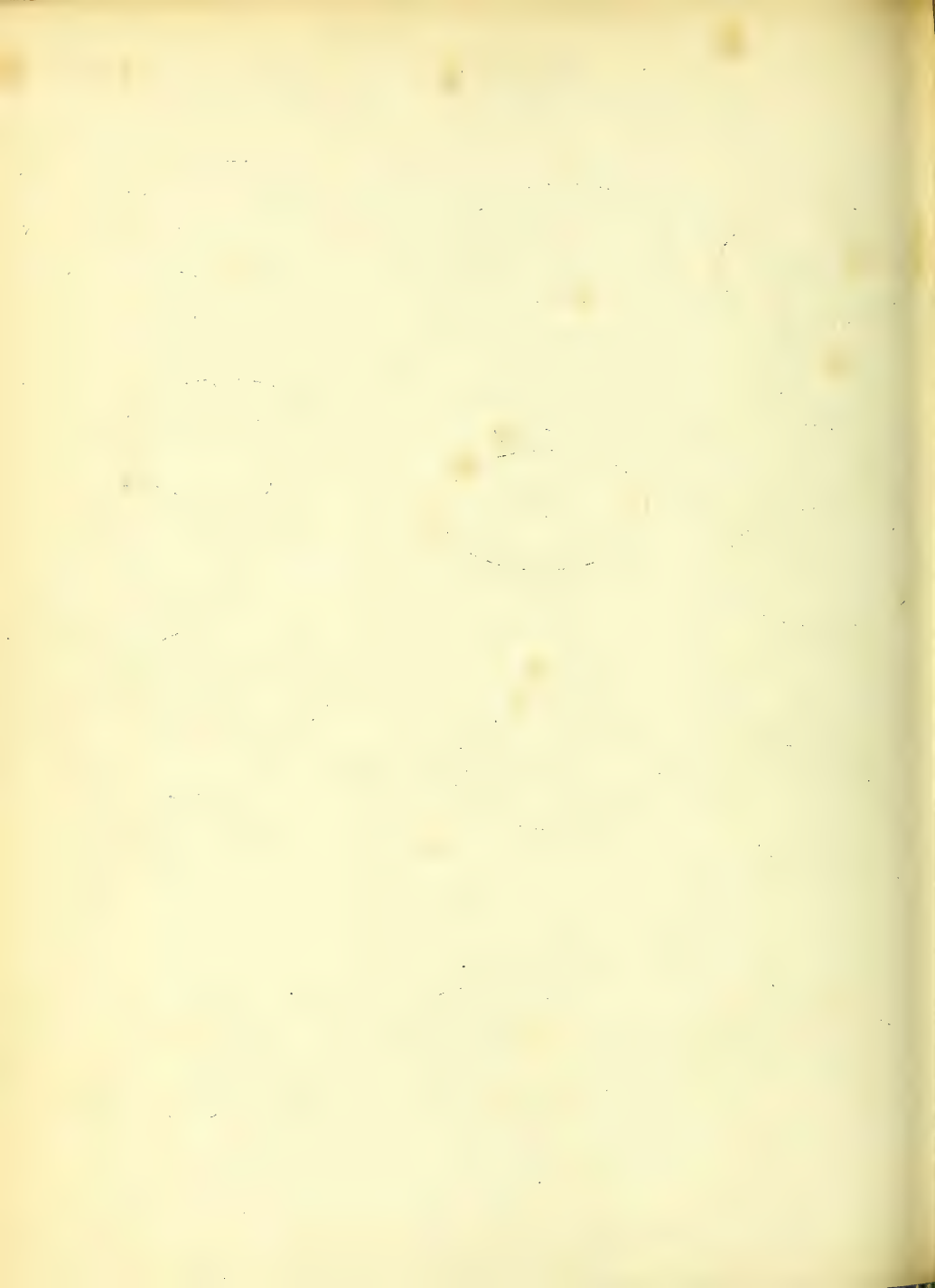


Fig. 13.





ELLIPSE.

PLATE VIII AND IX.

Fig. 14.

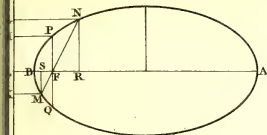


Fig. 15.

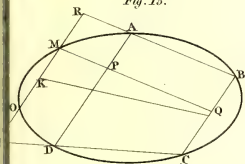


Fig. 16.

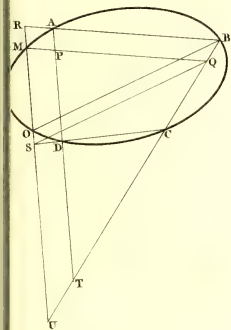


Fig. 17.

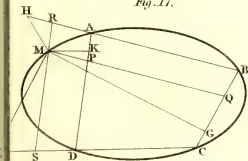


Fig. 18.

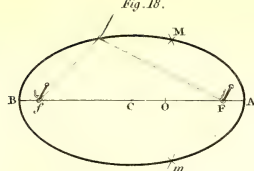


Fig. 19.

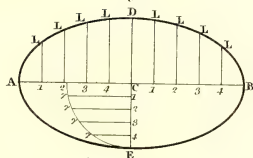


Fig. 20.

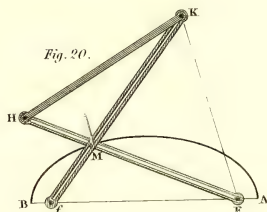


Fig. 21.

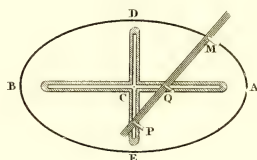


Fig. 26.

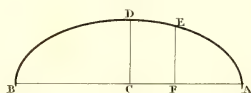


Fig. 23.

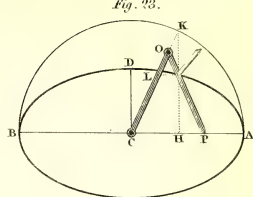


Fig. 24.

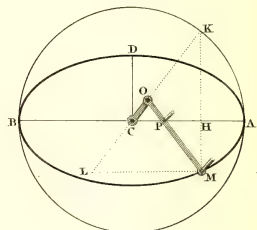


Fig. 25.

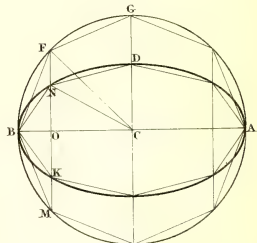
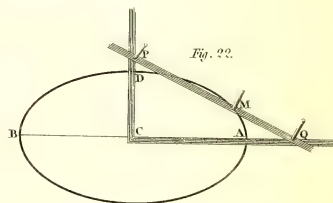
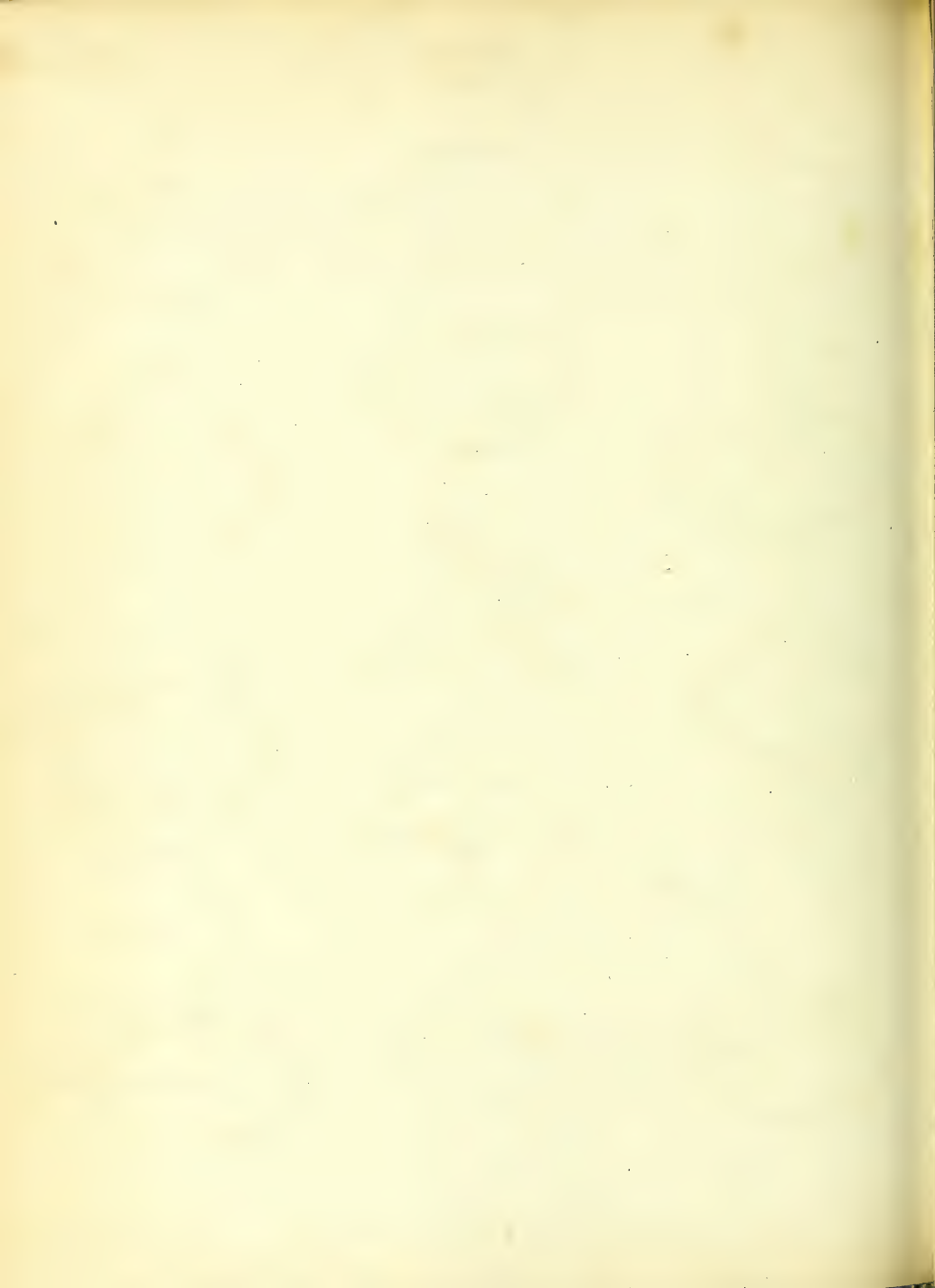


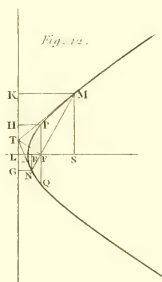
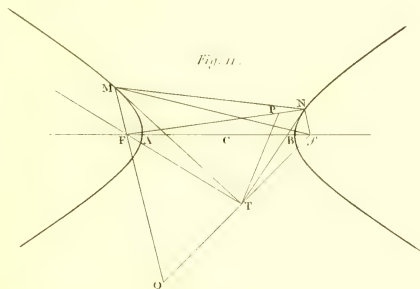
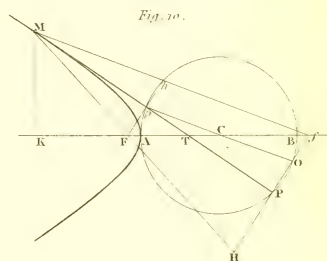
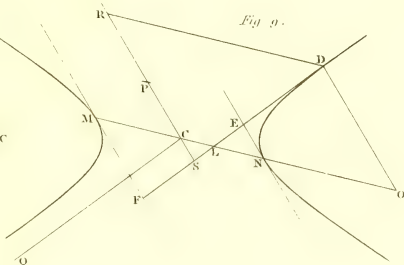
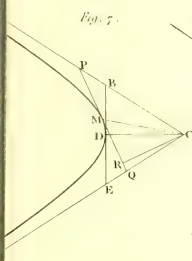
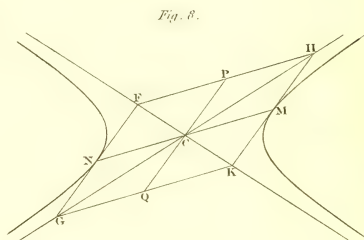
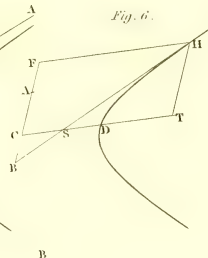
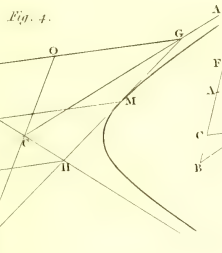
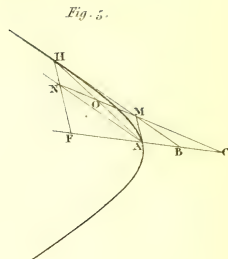
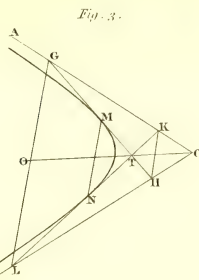
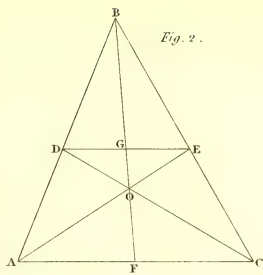
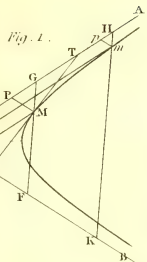
Fig. 22.

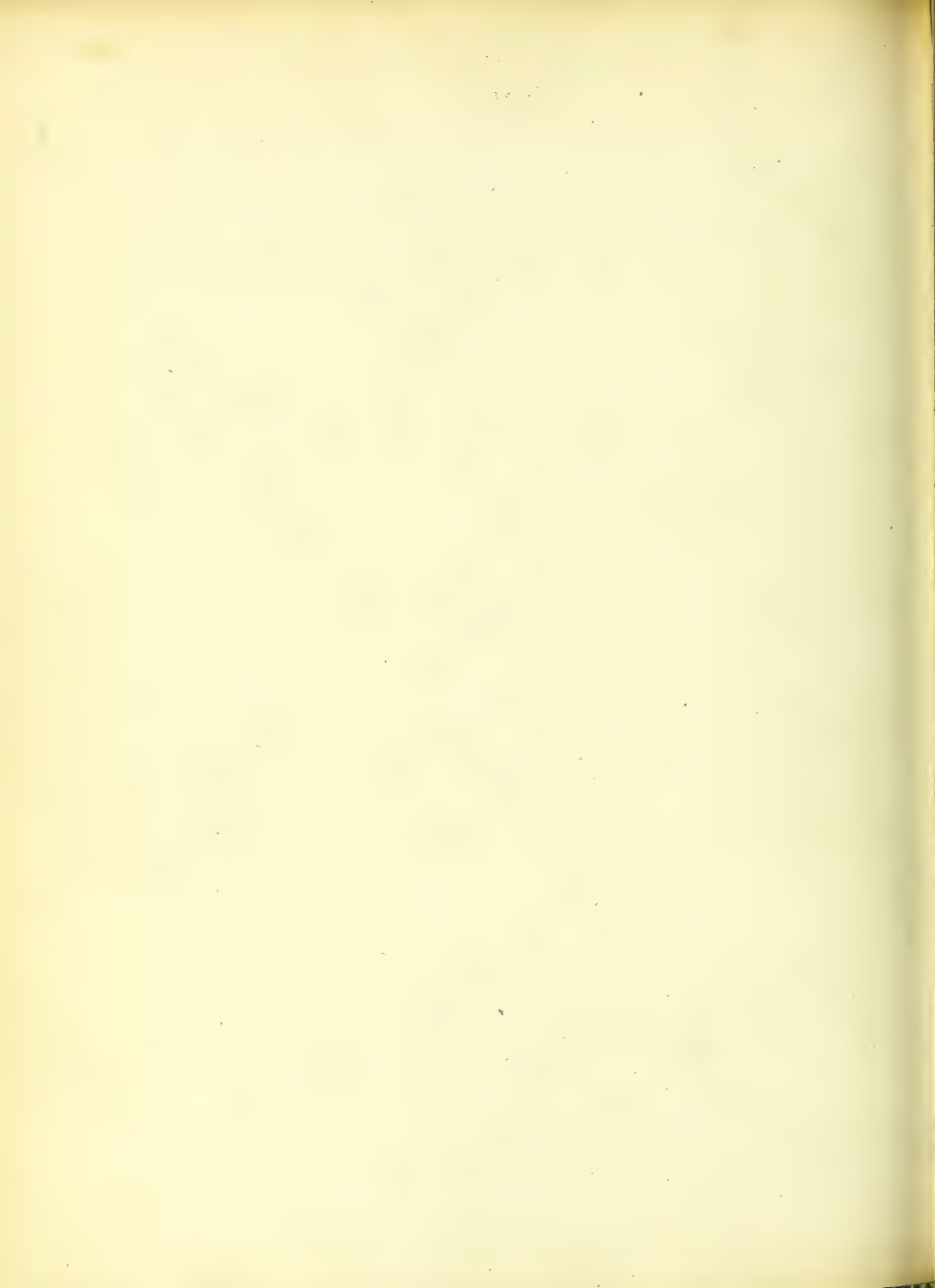




CONICS. HYPERBOLA.

PLATE X.





CONICS. HYPERBOLA.

PLATE XI.

Fig. 13.

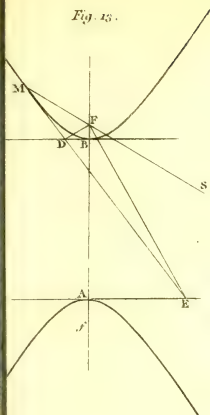


Fig. 16.

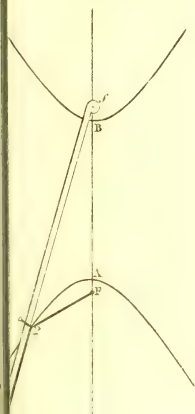


Fig. 19.

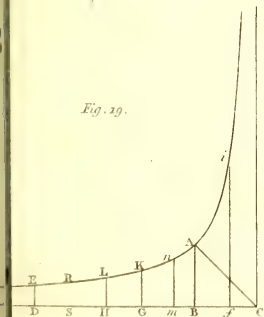


Fig. 14.

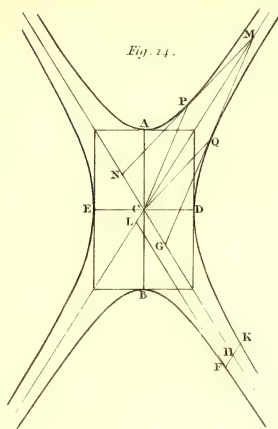


Fig. 17.

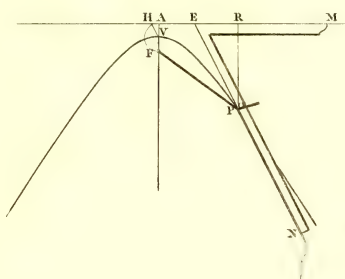


Fig. 20.

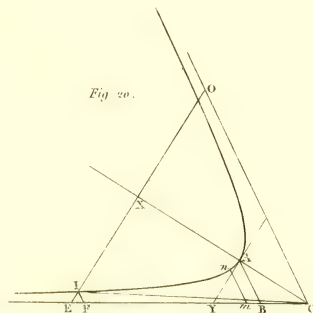


Fig. 15.

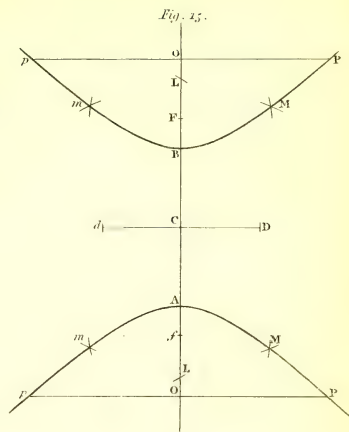


Fig. 18.

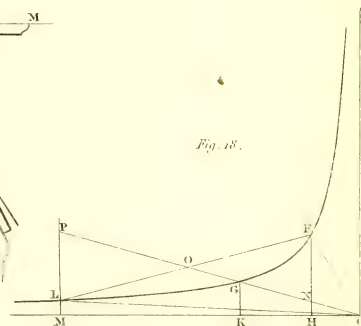
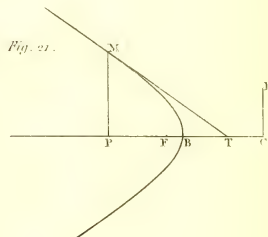


Fig. 21.





CONICS. PARABOLA.

PLATE XII.

Fig. 1.

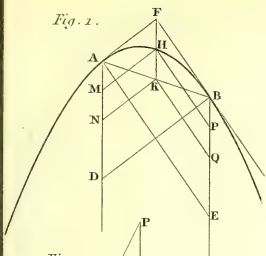


Fig. 2.

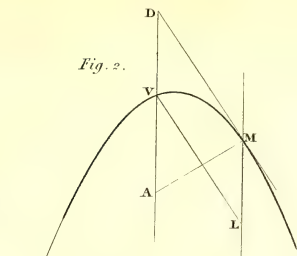


Fig. 3.

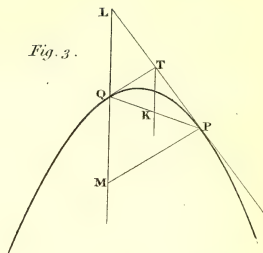


Fig. 4.

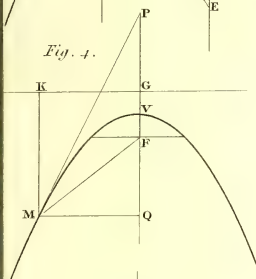


Fig. 5.

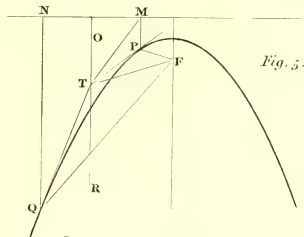


Fig. 6.

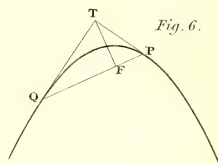


Fig. 7.

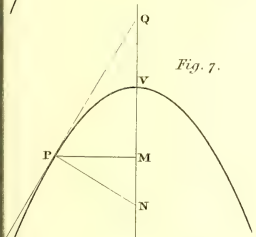


Fig. 8.

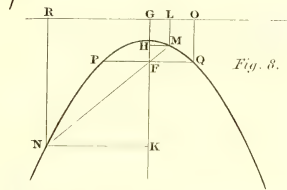


Fig. 9.

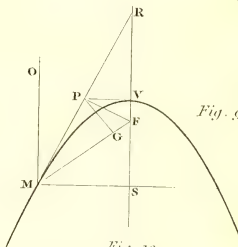


Fig. 10.

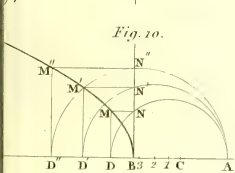


Fig. 11.

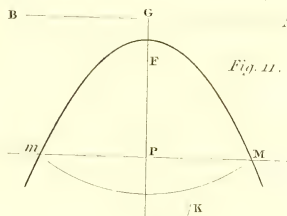


Fig. 12.

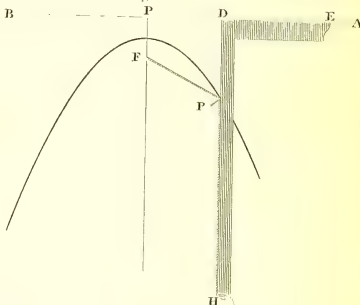


Fig. 16.

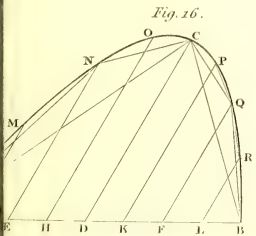


Fig. 13.

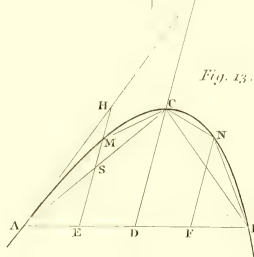
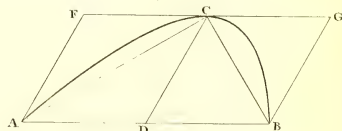
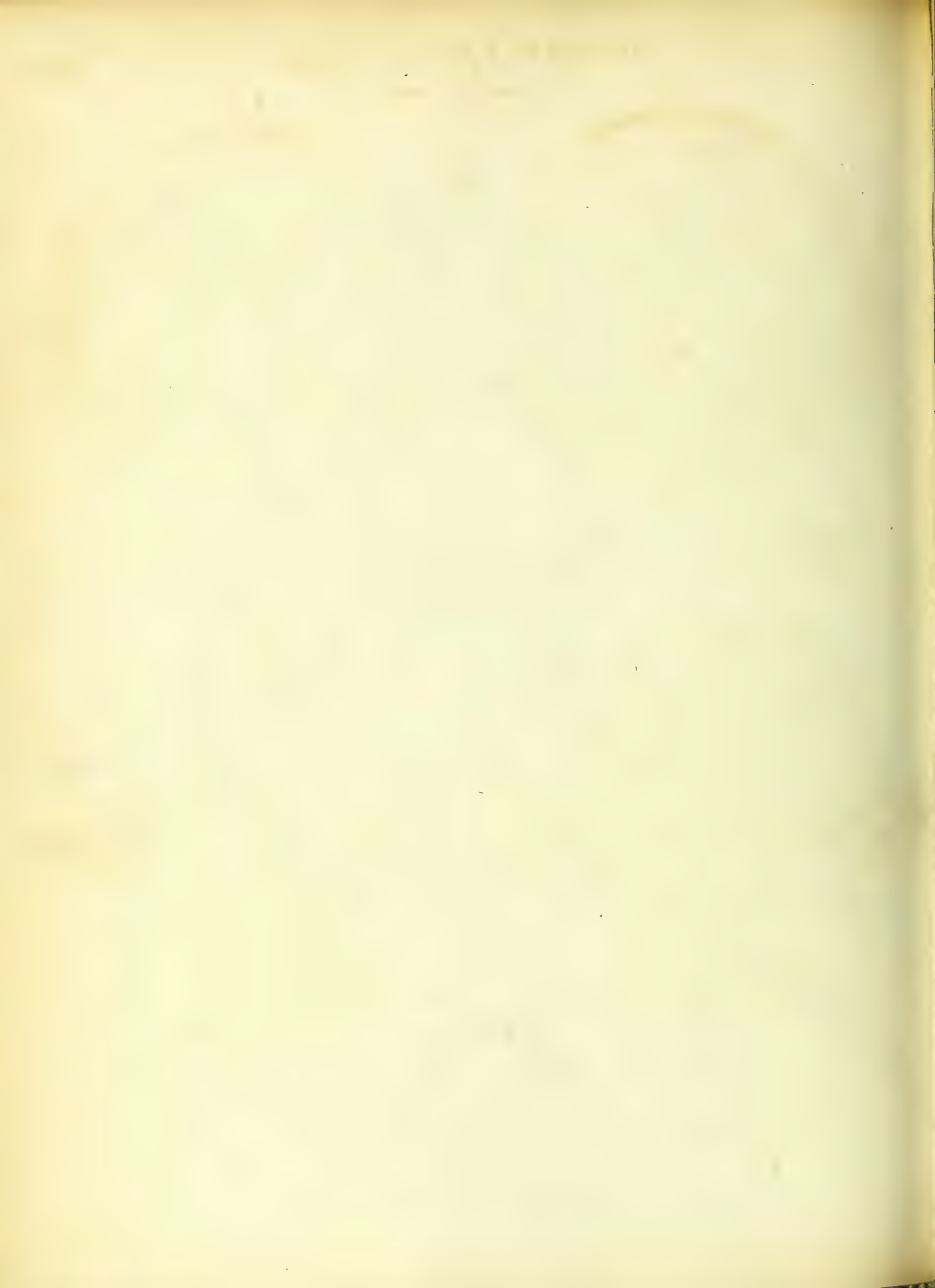


Fig. 14 & 15.





COTTON MANUFACTURE.

PLATE I.

CALICO PRINTING.

Fig. 1.

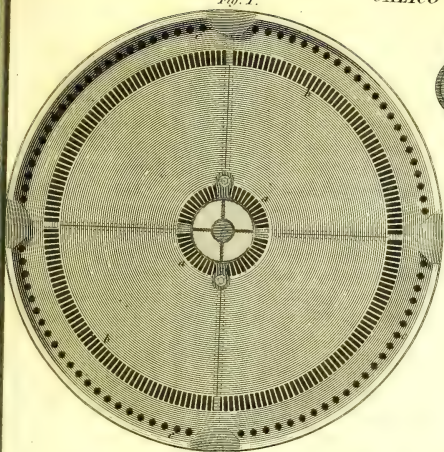


Fig. 6.



Fig. 2.

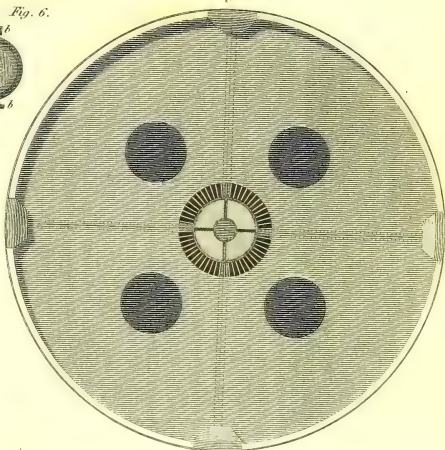


Fig. 5.

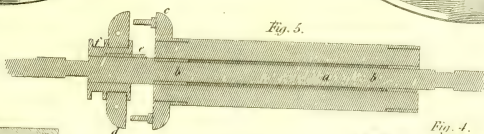


Fig. 3.

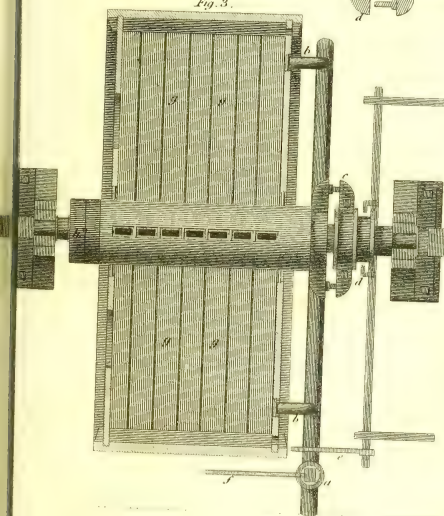
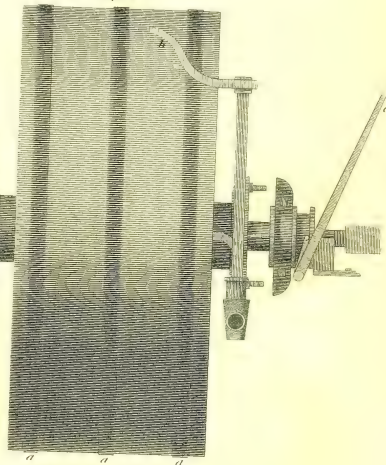


Fig. 4.



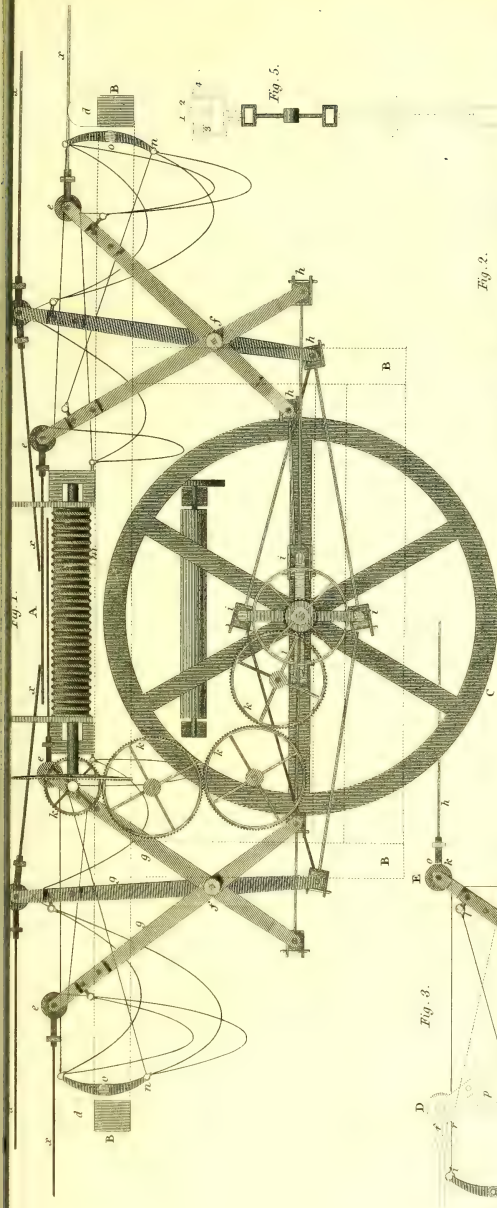


Fig. 5.

Fig. 2.

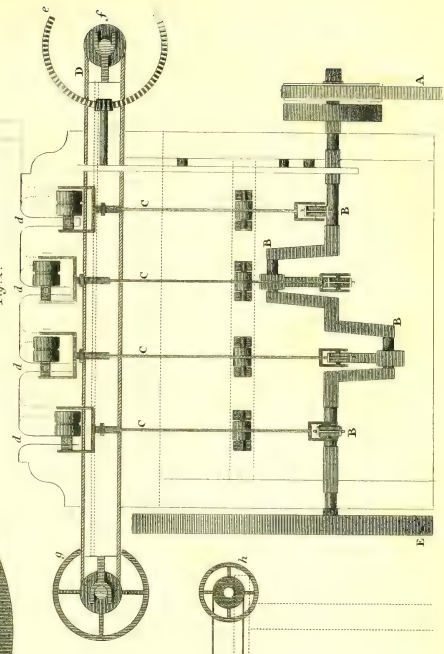


Fig. 3.

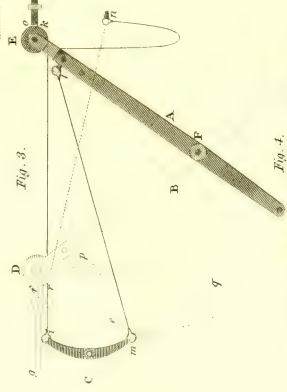


Fig. 4.

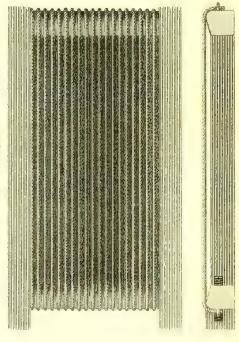




Fig. 1.

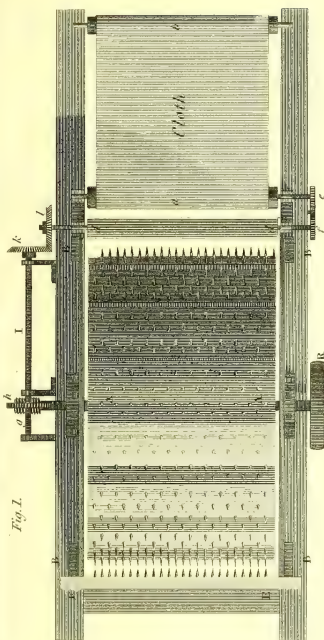


Fig. 5.



Fig. 2.

Section.

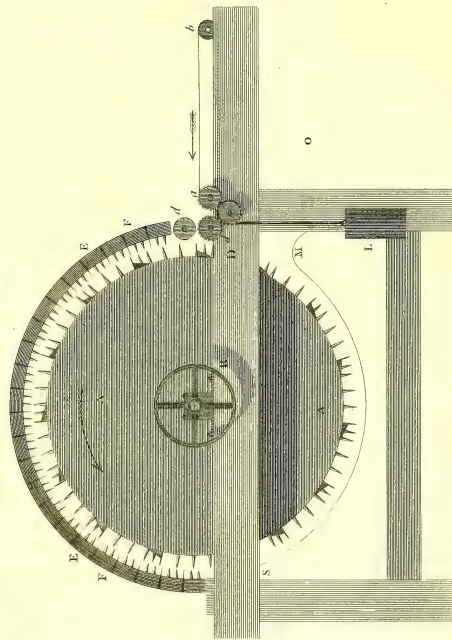


Fig. 3.

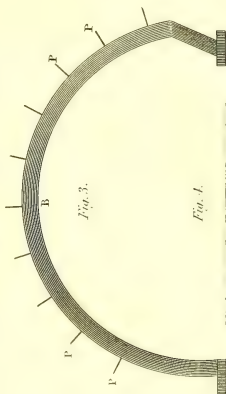
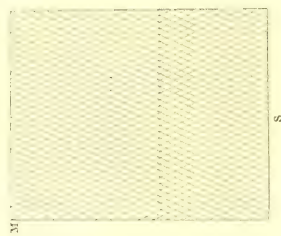


Fig. 4.



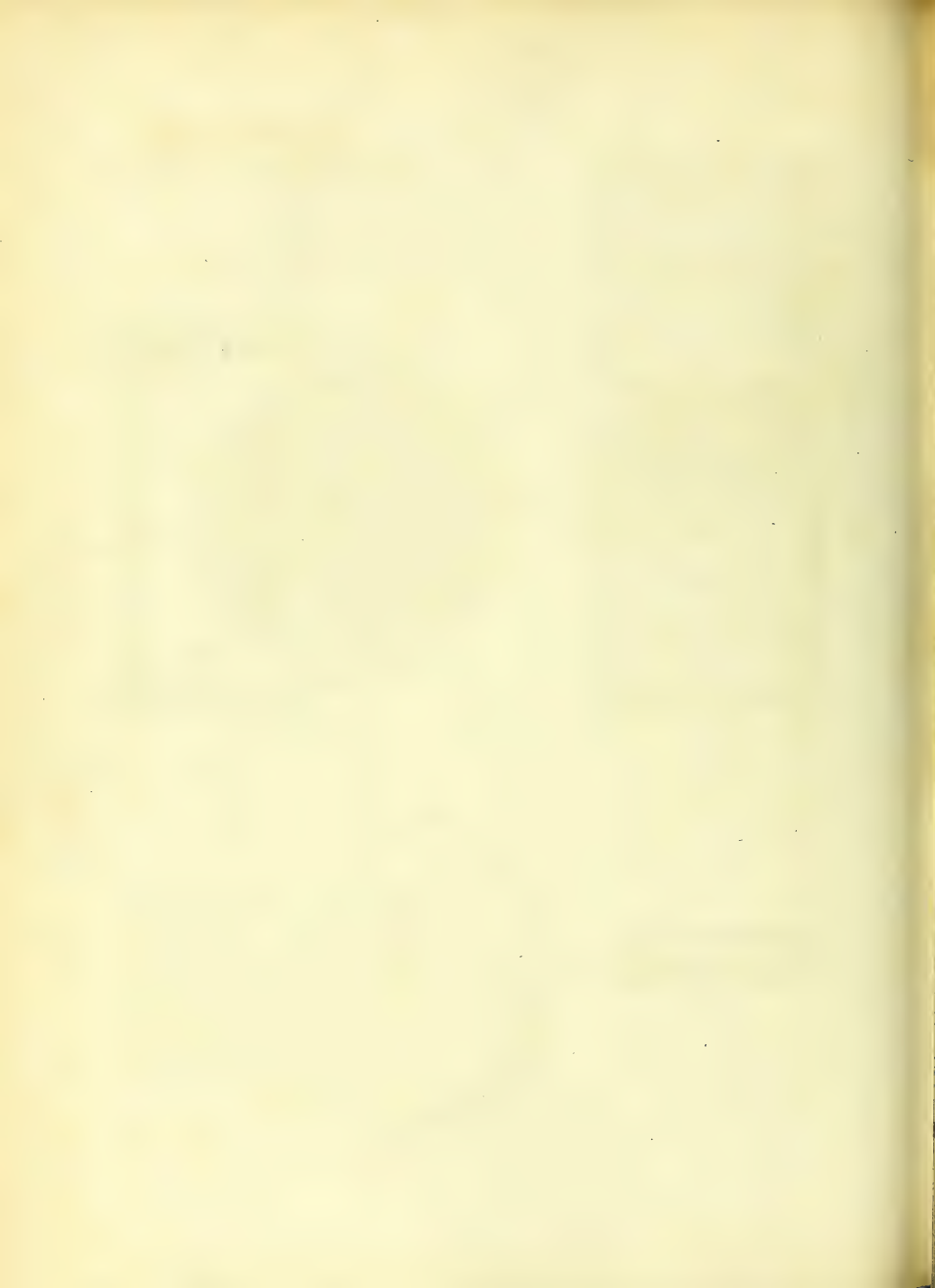


Fig. 1. Plan

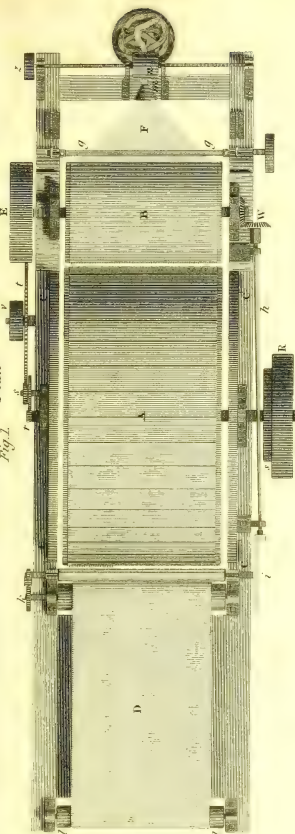


Fig. 2. Section

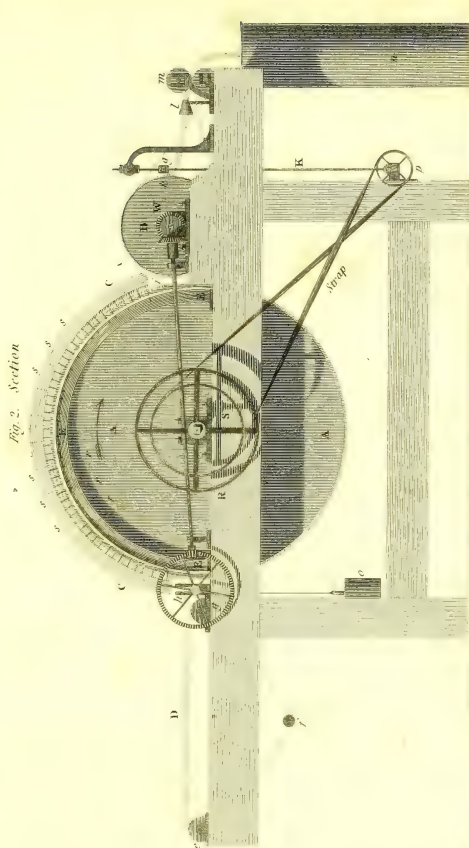


Fig. 3.

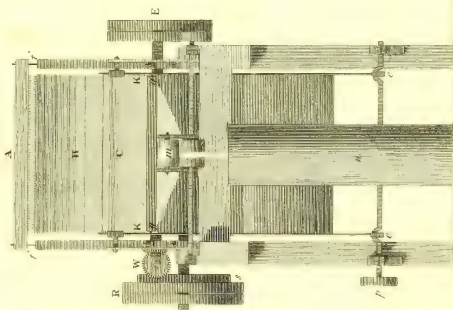
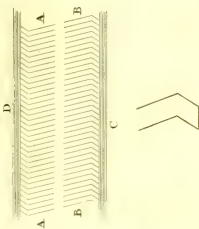


Fig. 4.



Drawn by James Brown.

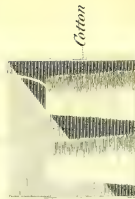
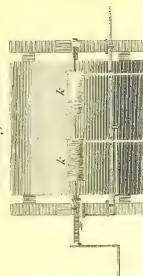
Published on the 1st of March 1850, by Longman, Hurst, Rees, & Orme, Paternoster Row.

Engraved by William Lacey.



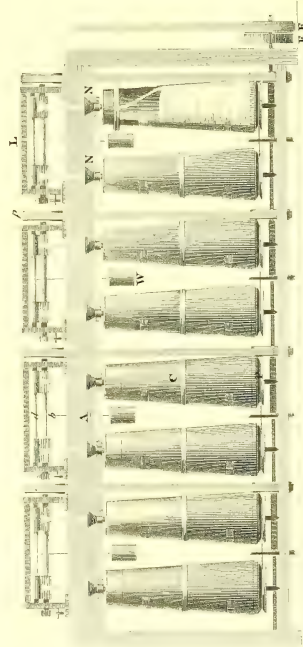


Winding Block



Cotton

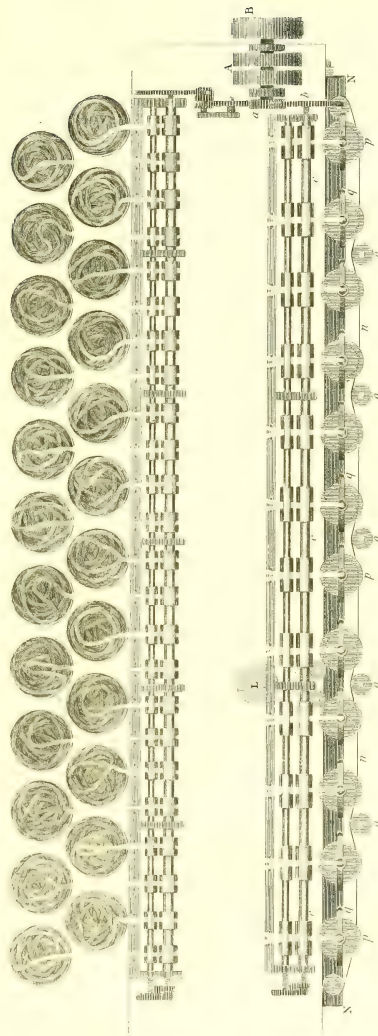
- A Roller beam.
- b Front Roller.
- c Back Roller.
- d Top front Roller.
- C Revolving Gin.
- W Roller weight.
- P Gin Pulley.
- DD Back Gin.
- E Drawing Pulley.
- F Loose Pulley.
- NN Gin Flange.
- L Cleaver.
- p Front roller Pulley.
- k k Bobbin.





ROTING FRAME, Plate Ist.

These cans contain the slivers brought from the Drawing frame.



Horizontal Plan of the Machine called Double Spreader.

Published as the Act directs, 1811, by Longman, Almon, Ross, Arne & Brown, Printers in the Strand.

Designed by Wilson Lowry.



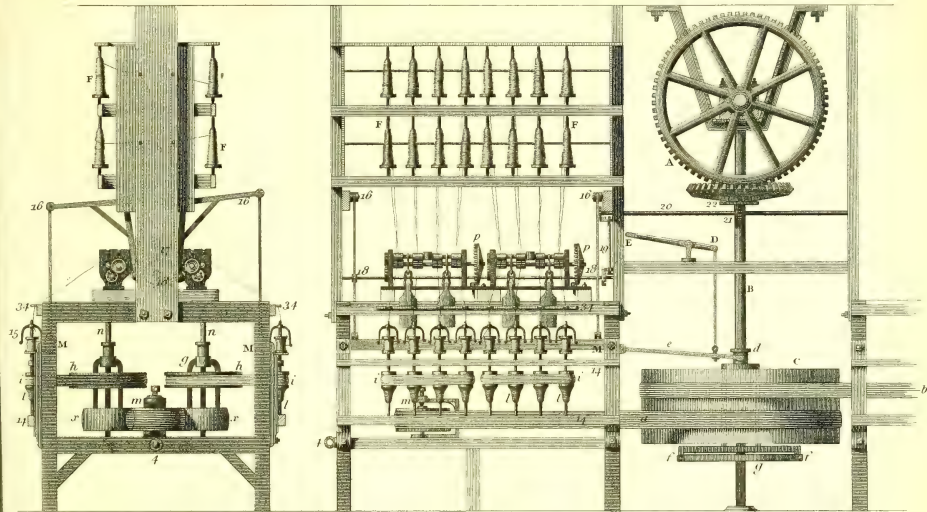
COTTON MANUFACTURE.

WATER SPINNING FRAME.

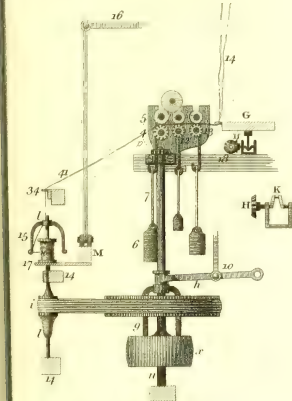
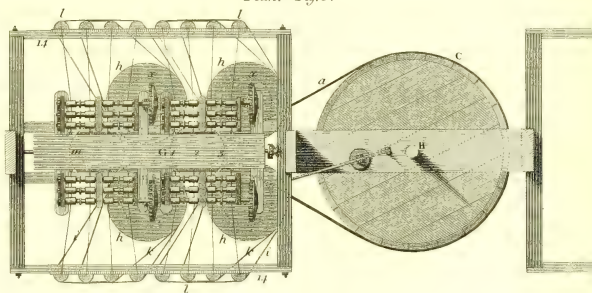
End View. Fig. 2.

Elevation. Fig. 1.

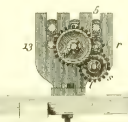
Plate IX.



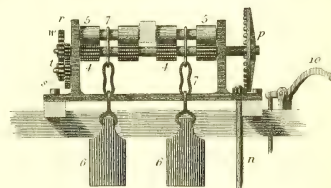
Plan. Fig. 3.



Spindle enlarged. Fig. 4.



End View. Fig. 6.



Elevation of Rollers. Fig. 5.



THROSTLE SPINNING FRAME.

Fig. 1.

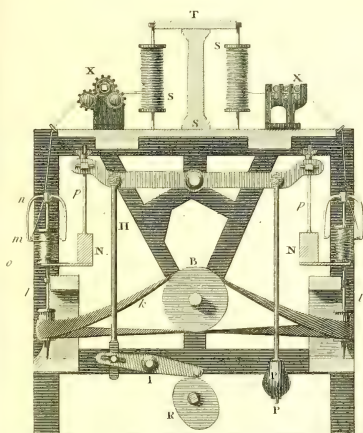


Fig. 2.

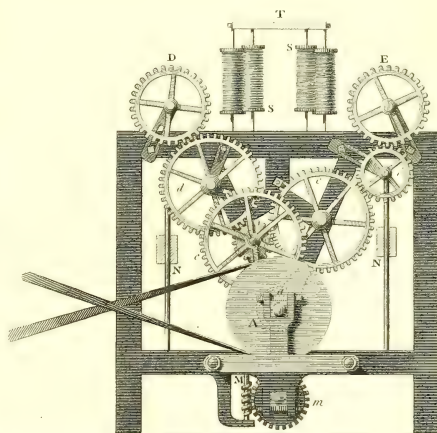
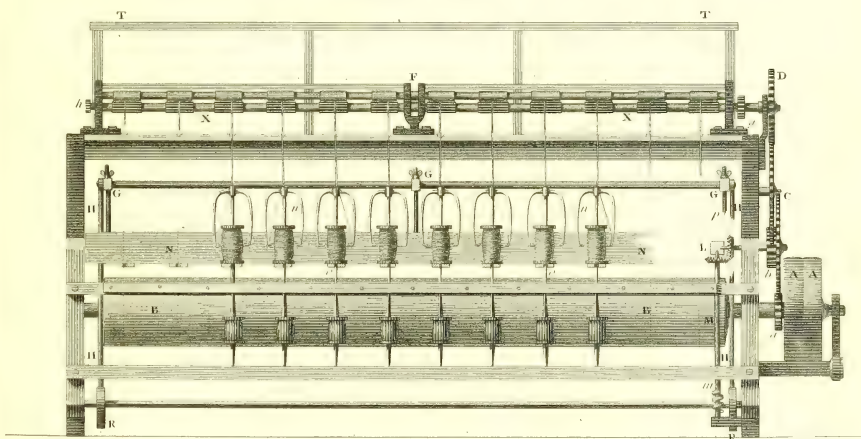


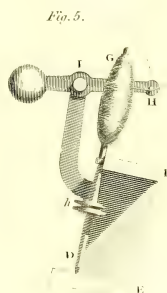
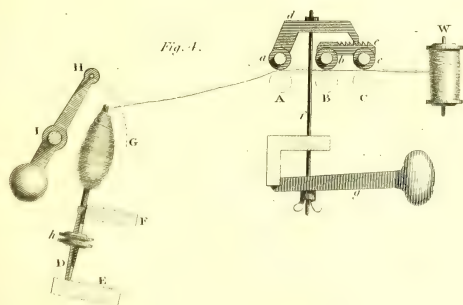
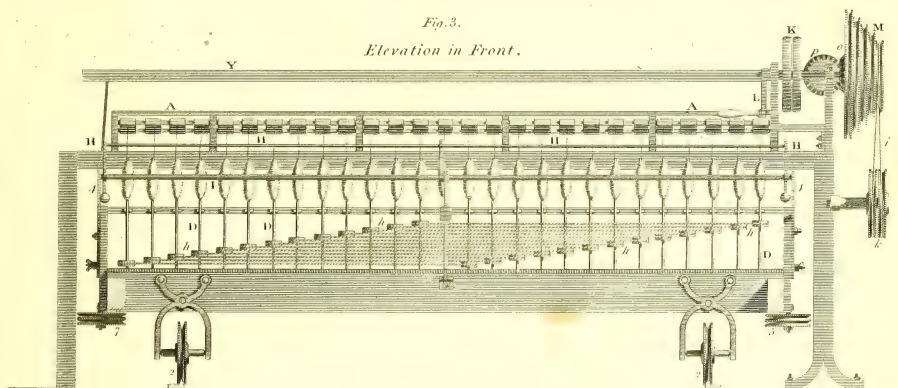
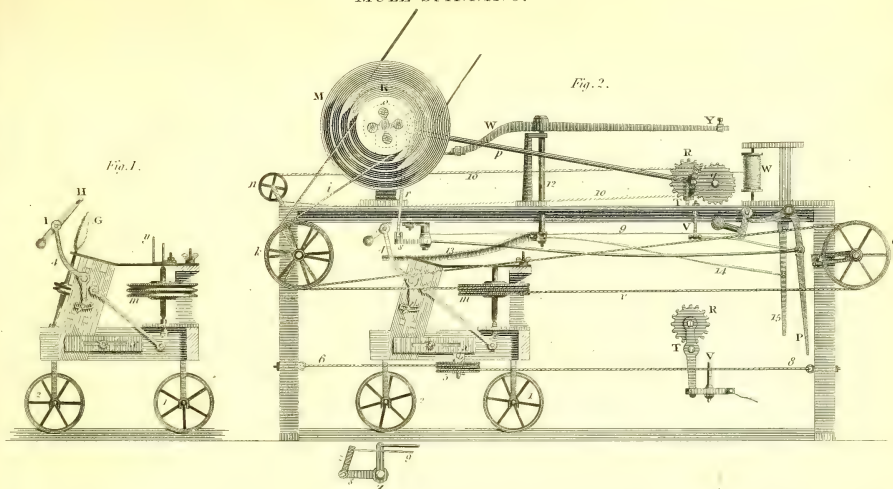
Fig. 3.

Elevation in Front.



國 國

三





COTTON MANUFACTURE.
REELING.

PLATE XII.

Fig. 1.

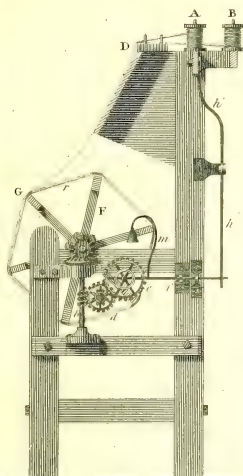
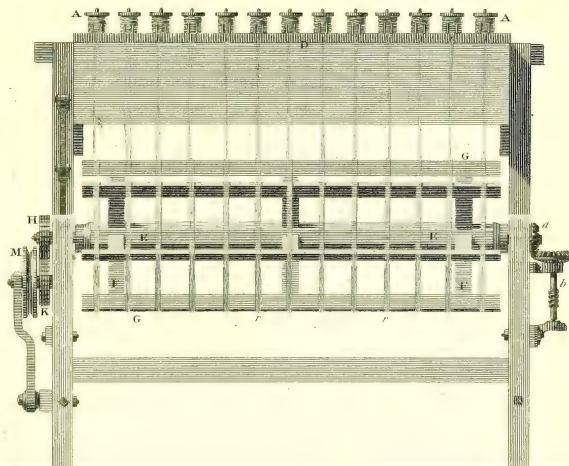


Fig. 2.



Machine for winding sewing cotton into Balls.

Fig. 3.

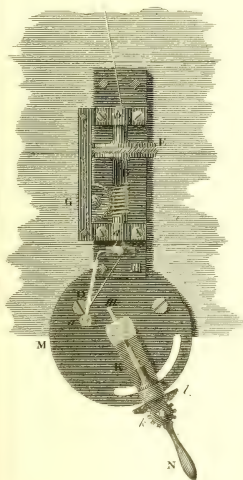
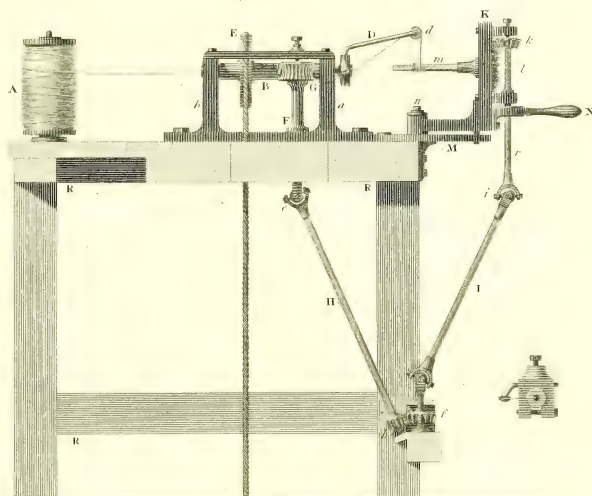


Fig. 3.



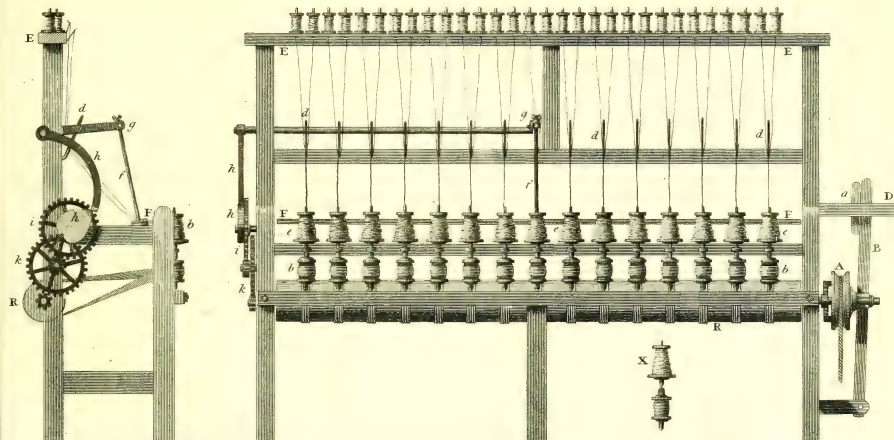


COTTON MANUFACTURE.

PLATE XIII.

Fig. 2.

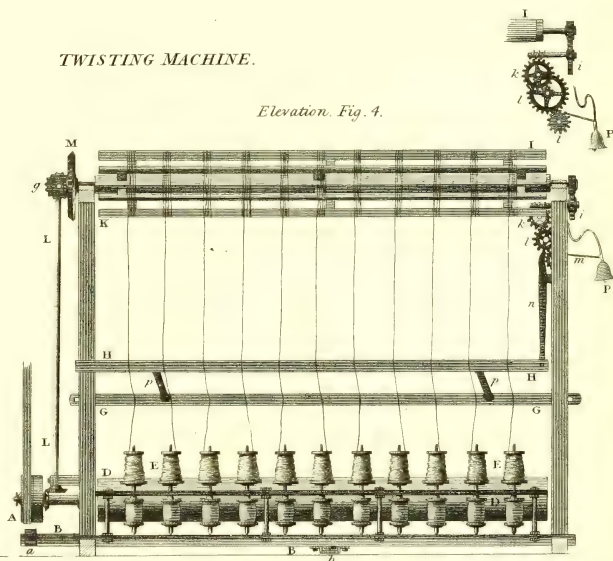
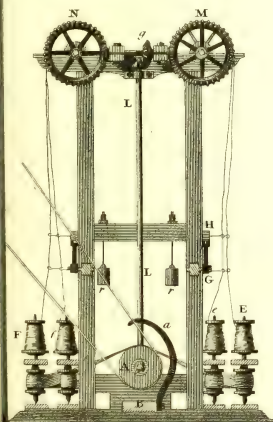
Fig. 1. DOUBLING MACHINE.

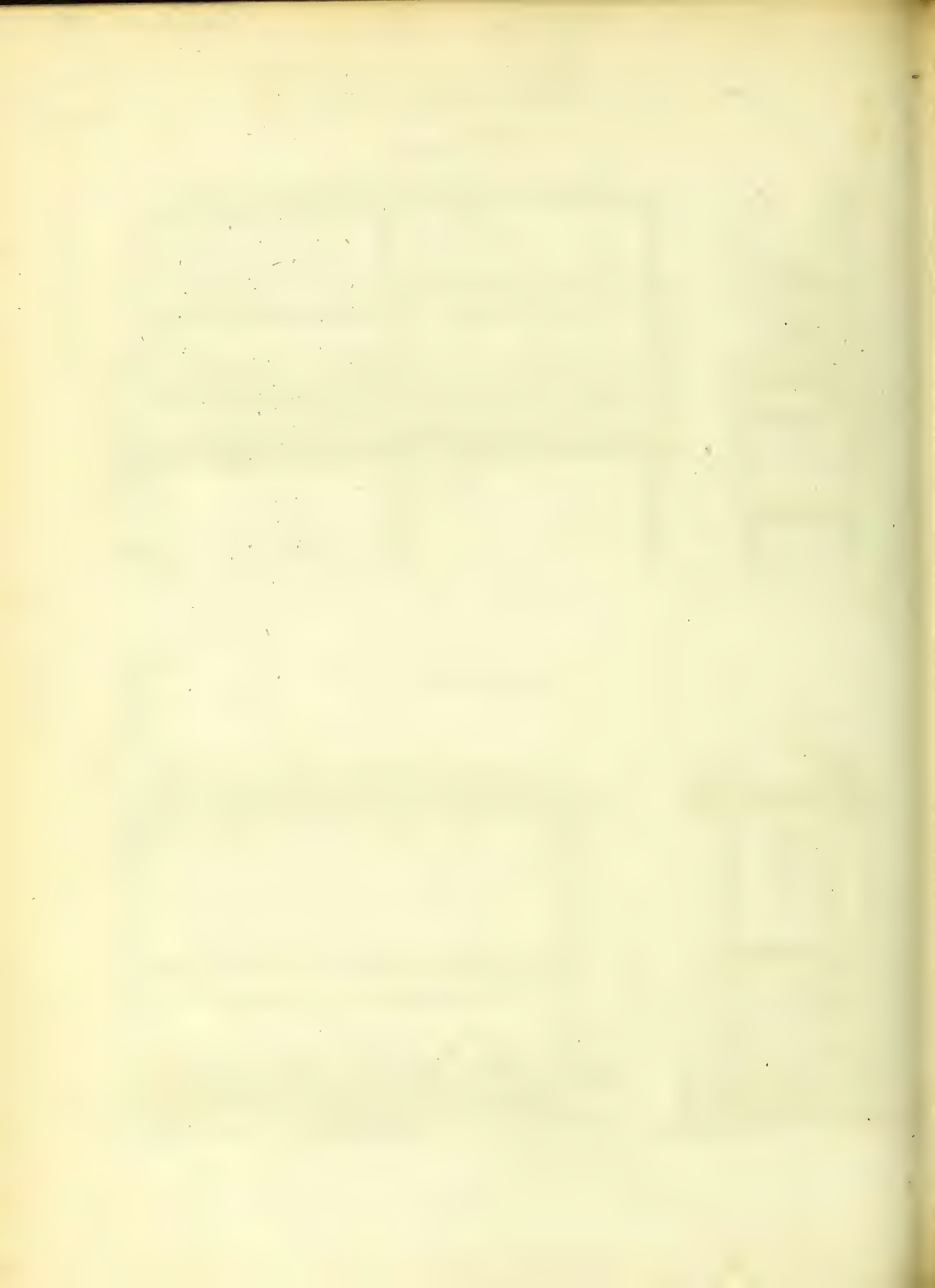


TWISTING MACHINE.

End View. Fig. 3.

Elevation. Fig. 4.



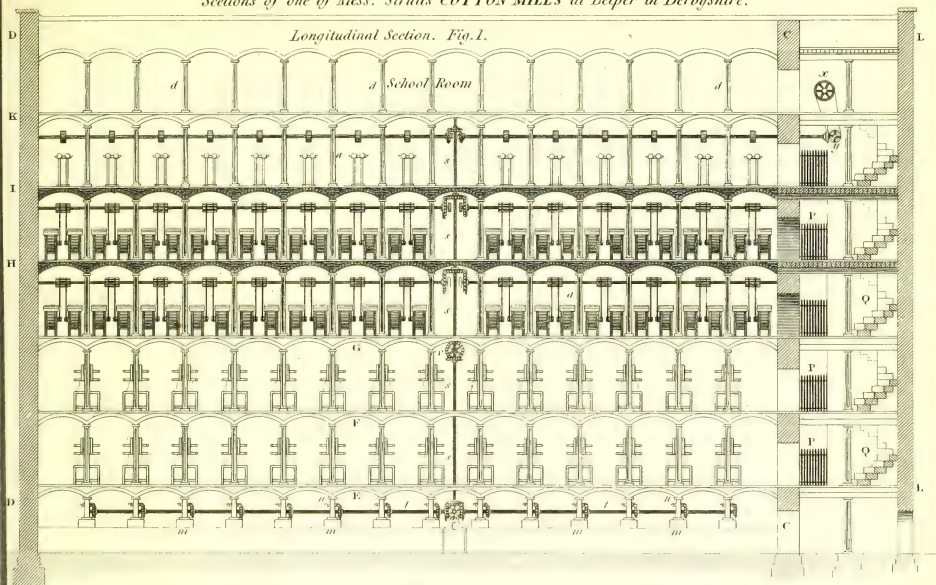


COTTON MANUFACTURE.

PLATE XIV.

Sections of one of Mess^{rs} Strutt's COTTON MILLS at Belper in Derbyshire.

Longitudinal Section. Fig. 1.



Section of the Wing. Fig. 3.

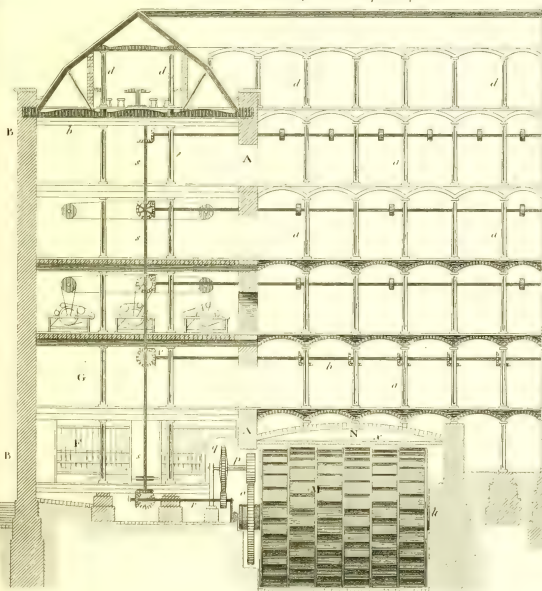
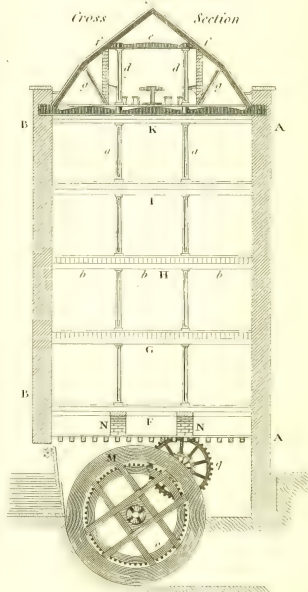
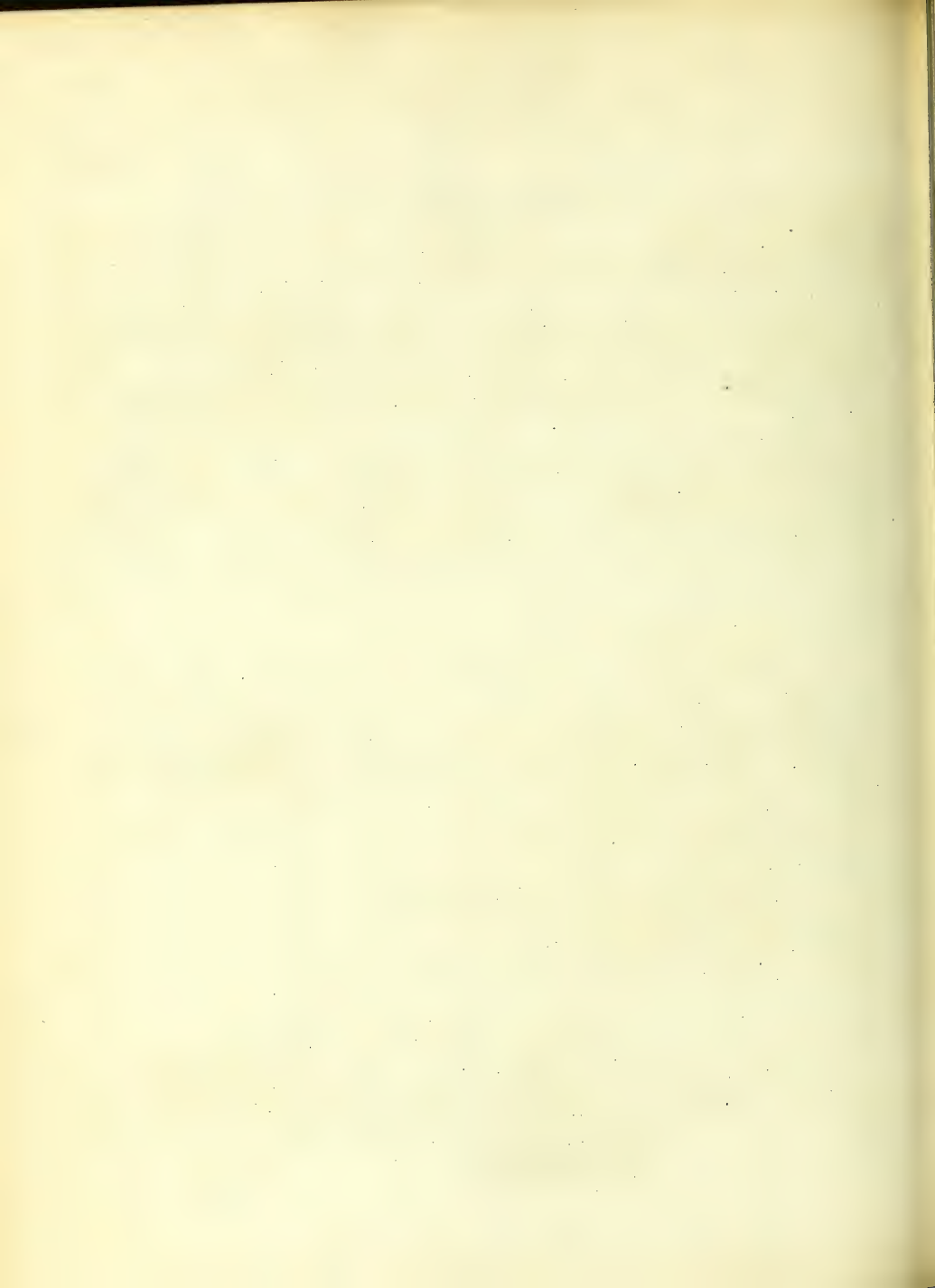


Fig. 2.

Gross Section





CUTLERY.

PLATE I.

Fig.1. Two Troughs of a Grinding Mill.

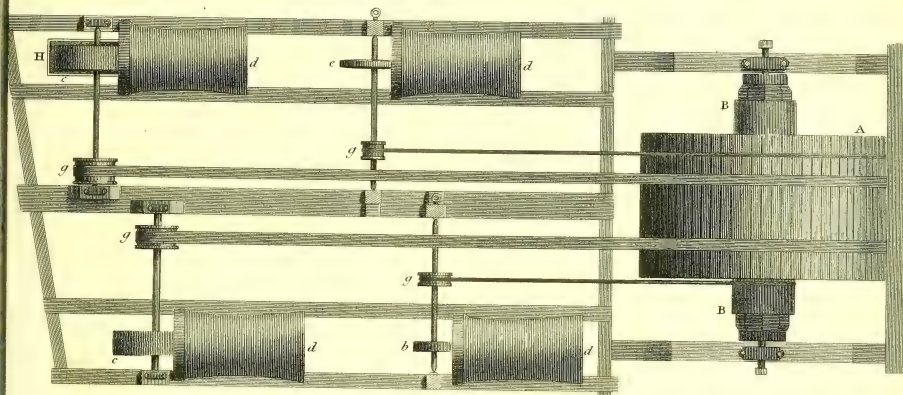


Fig.3. Pressing Vice.

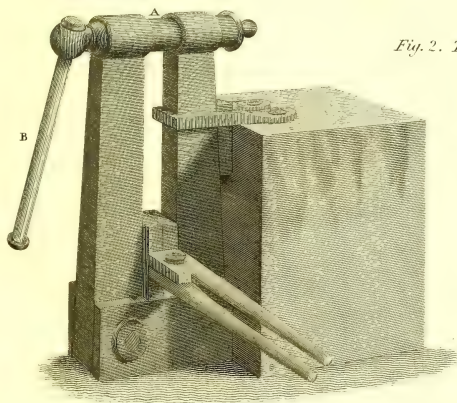


Fig.2. Tongs for pressing Knife Handles.

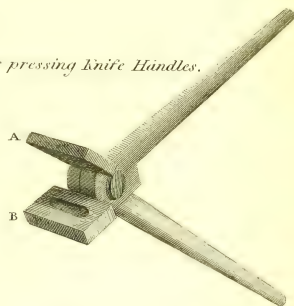
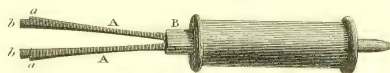


Fig. 2*.



Fig.3. Spring Drill.



Engraved by Wilson Lowry.



CYCLOID.

Fig. 1.

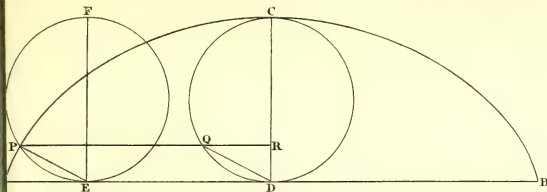


Fig. 2.

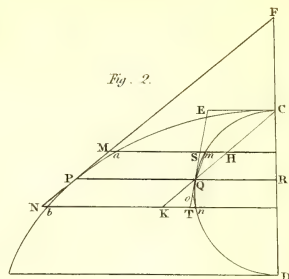


Fig. 3.

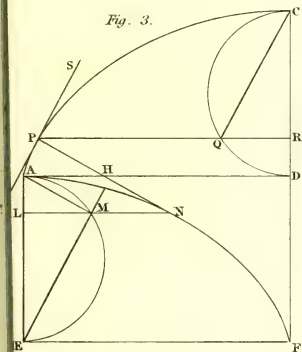


Fig. 4.

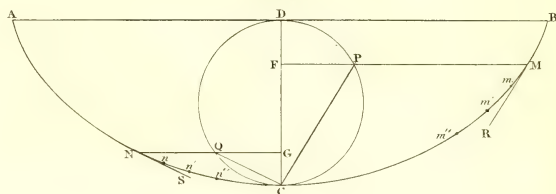


Fig. 6.

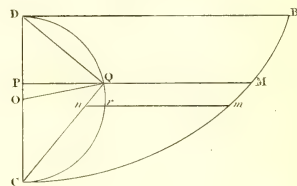


Fig. 5.

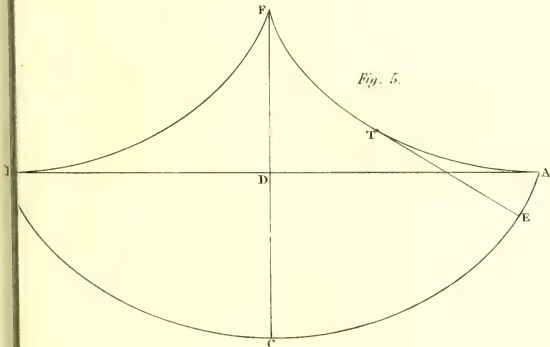


Fig. 8.

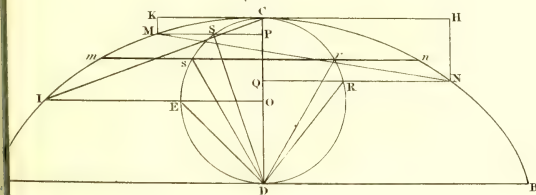
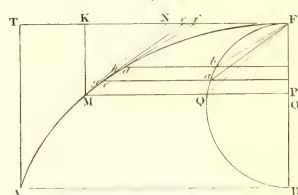
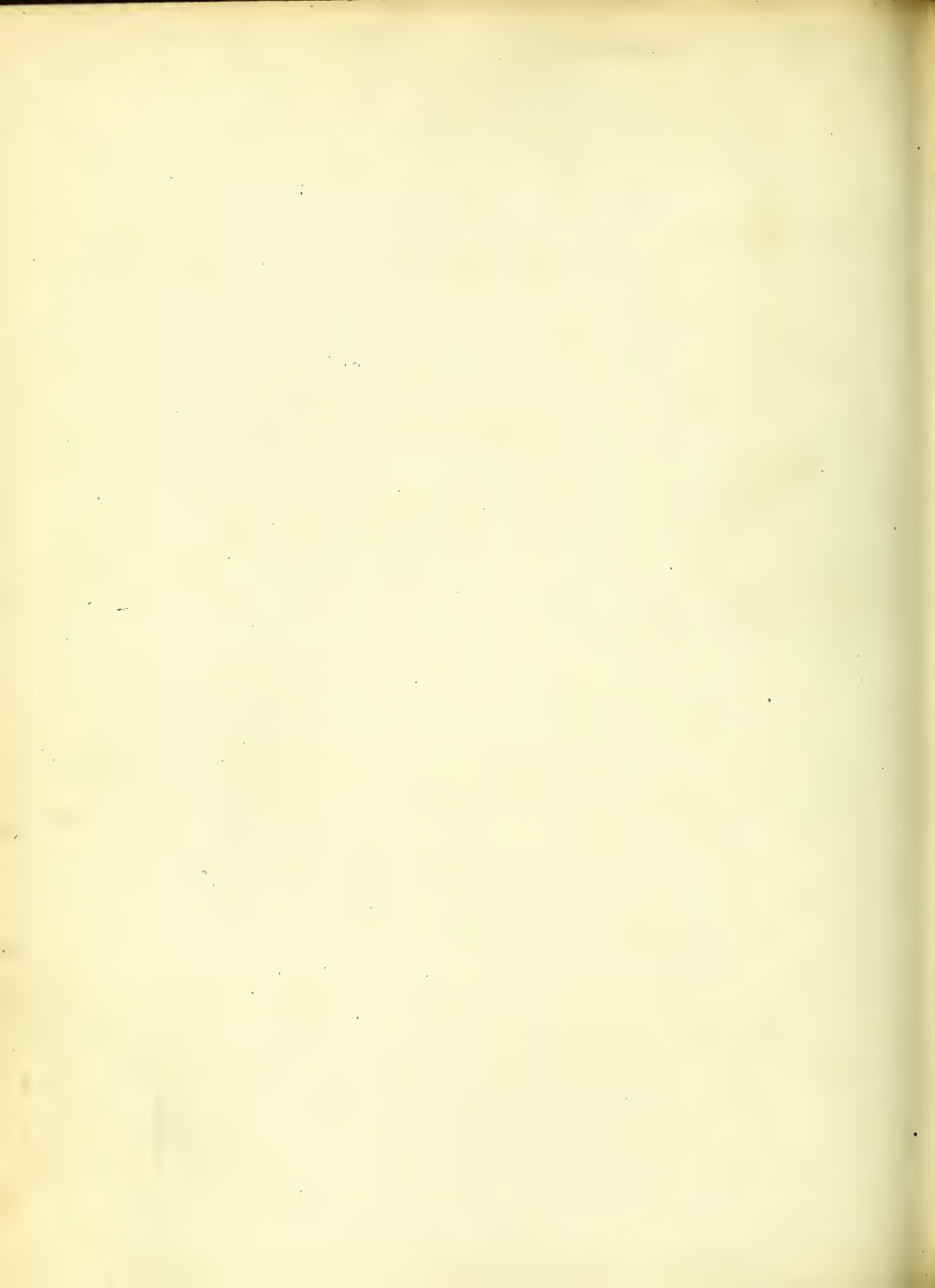
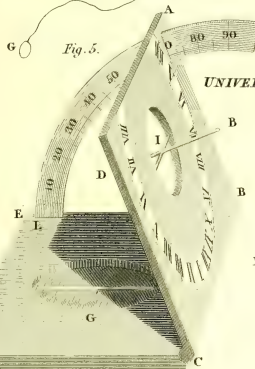
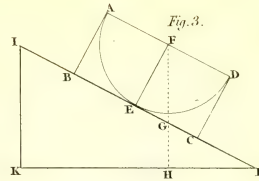
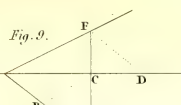
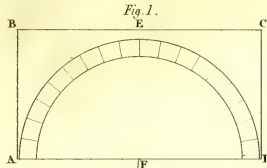


Fig. 7.

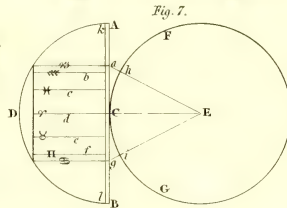
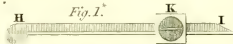




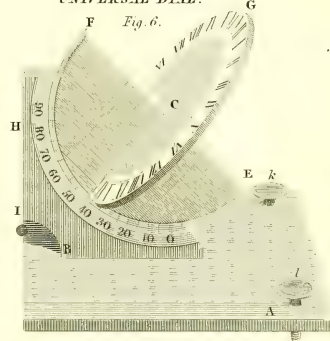
DECLINATOR.



UNIVERSAL EQUINOCTIAL DIAL.

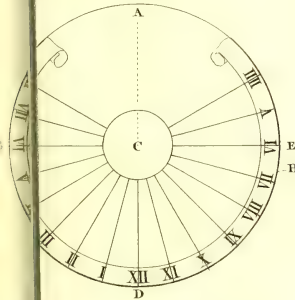


UNIVERSAL DIAL.



EQUINOCTIAL DIAL.

Fig. 4.



HORIZONTAL DIAL.

Fig. 8.

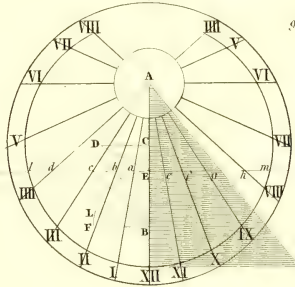


Fig. 10.

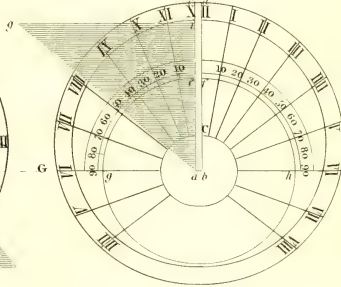


Fig. 11.

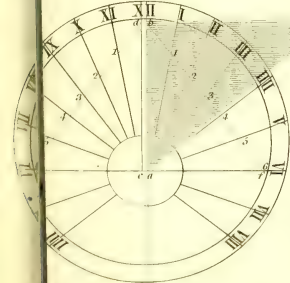
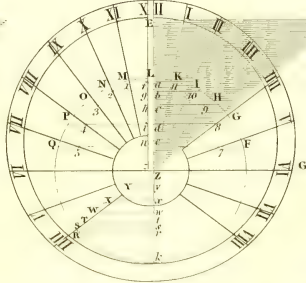


Fig. 12.



VERTICAL SOUTH DIAL.

Fig. 13.

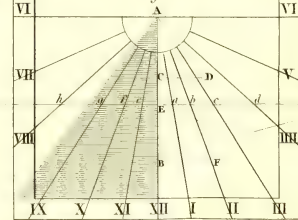
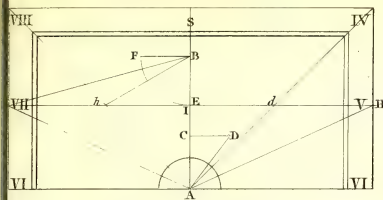




Fig. 14.
VERTICAL NORTH DIAL



POLAR DIAL

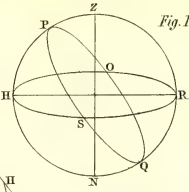


Fig. 17.

Fig. 15.
SOUTH DIAL

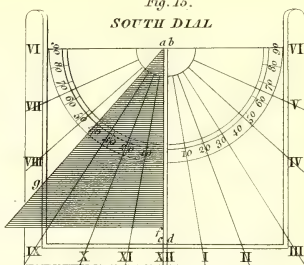


Fig. 16.
EAST DIAL

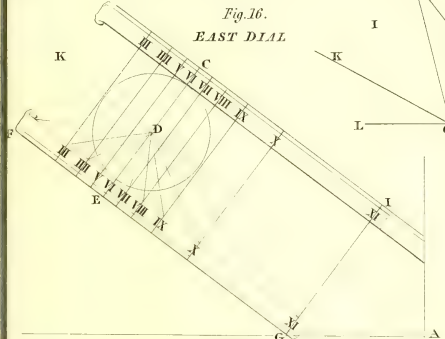


Fig. 23.
INCLINED DIAL

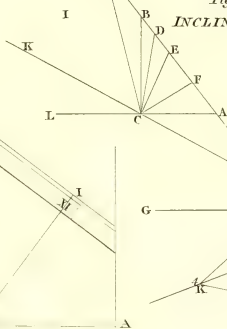


Fig. 22.
VERTICAL DECLINING DIAL

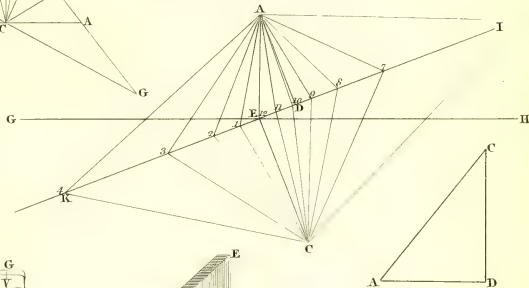
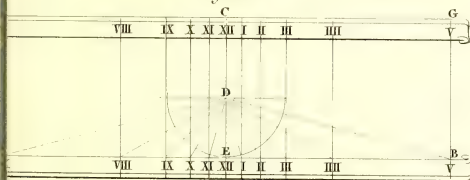


Fig. 18.



DIALS

Fig. 20.

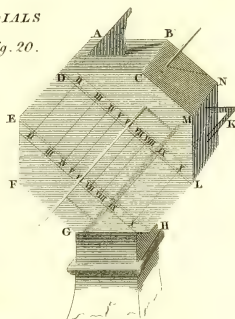


Fig. 24.

UNIVERSAL MECHANICAL DIAL

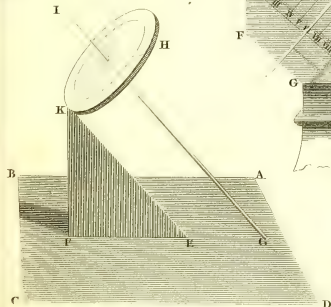


Fig. 19.
DIAL ON THREE PLANES

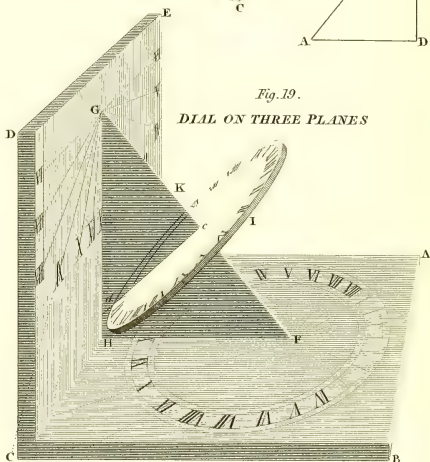
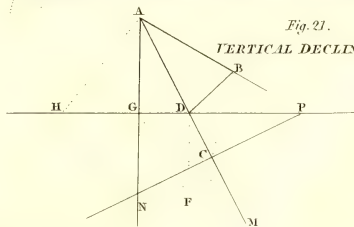


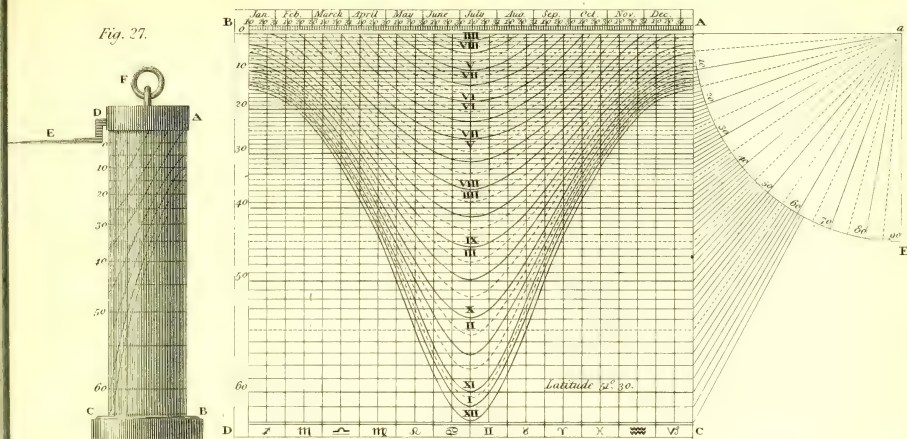
Fig. 21.
VERTICAL DECLINING DIAL





Cylindrical DIAL, Fig. 28.

Fig. 27.



Portable DIAL.

Fig. 30.

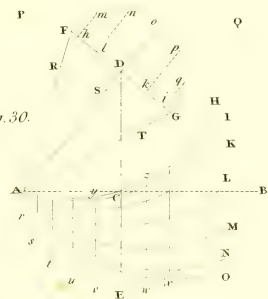


Fig. 32.

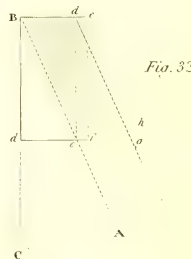


Fig. 33.

Universal DIAL on a Cross.

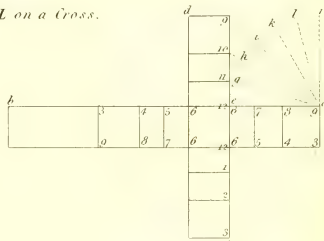
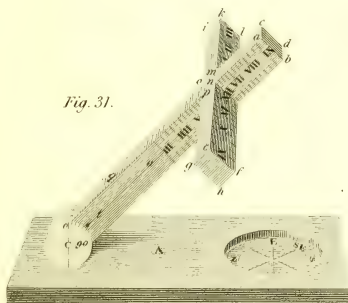


Fig. 31.



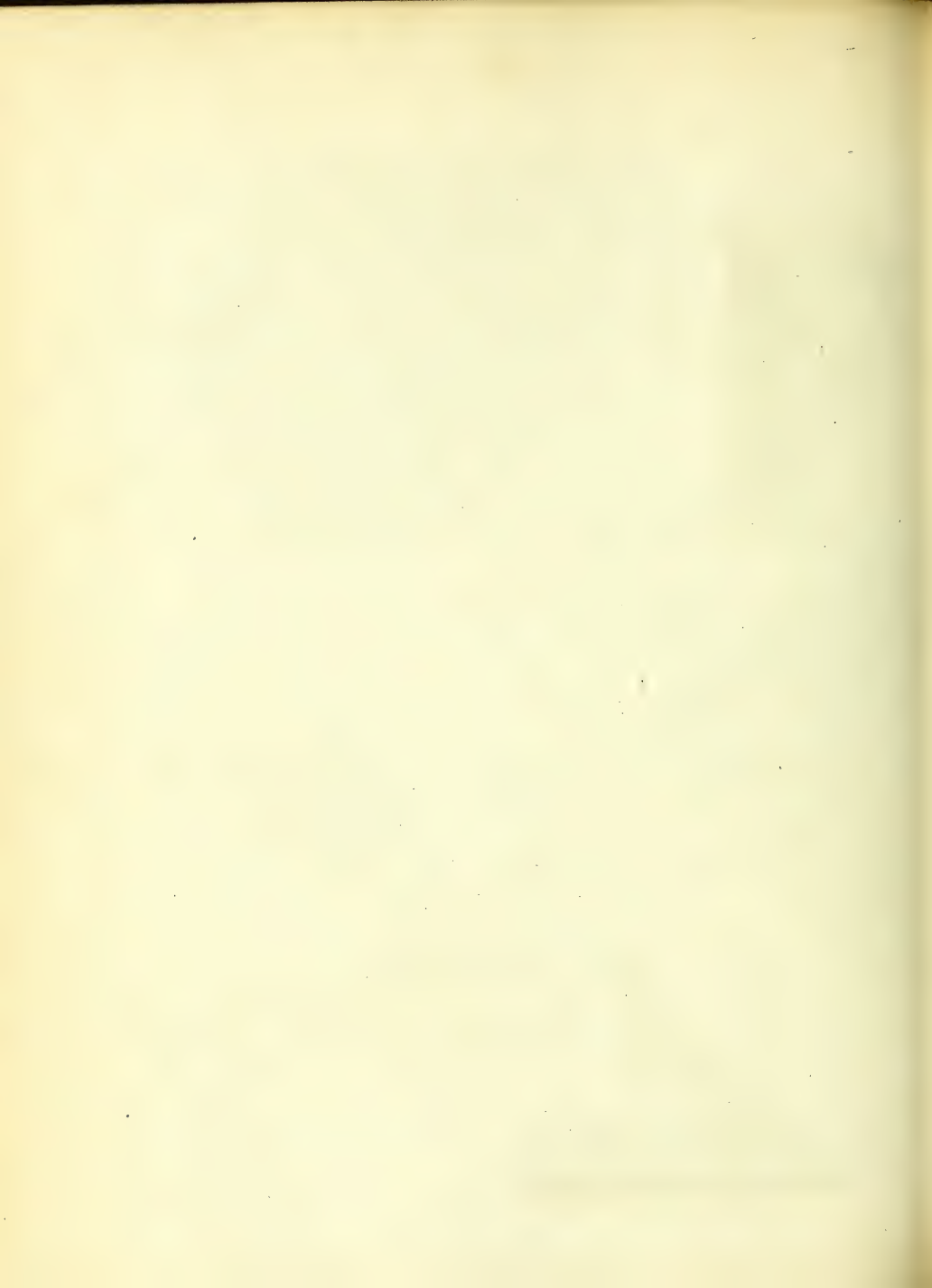


Fig. 33

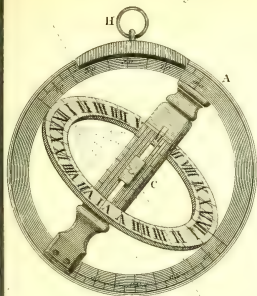


Fig. 25. PL. II.

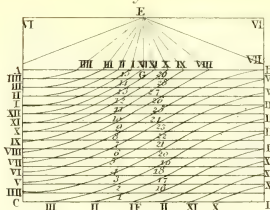


Fig. 26. PL. II.

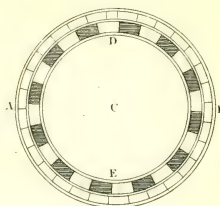


Fig. 37

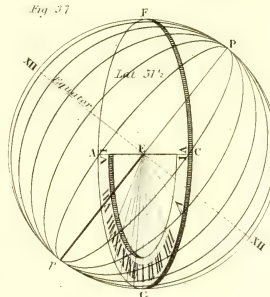


Fig. 36

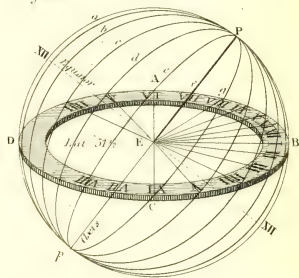


Fig. 34.

Ring
Dial

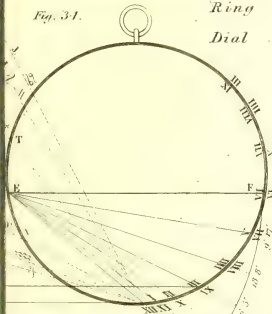
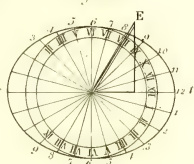


Fig. 40



Dialling Cylinder

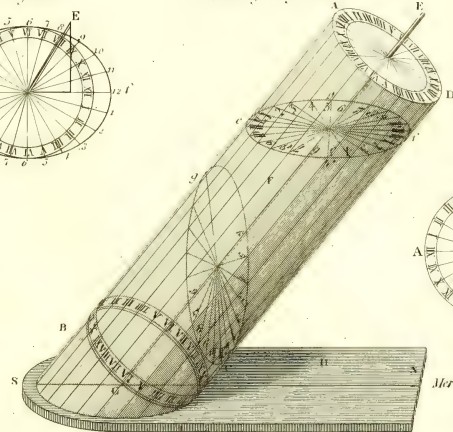
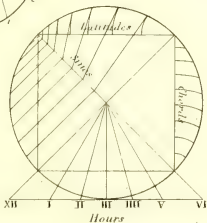
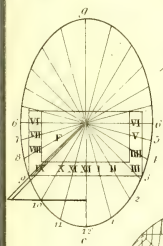


Fig. 38

Fig. 39

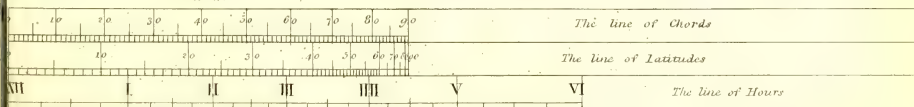


Fig. 11



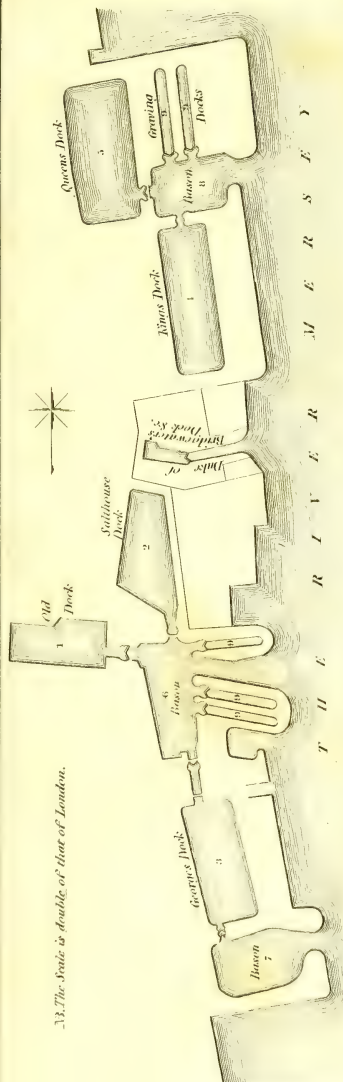
Dialling Scales

Fig. 42

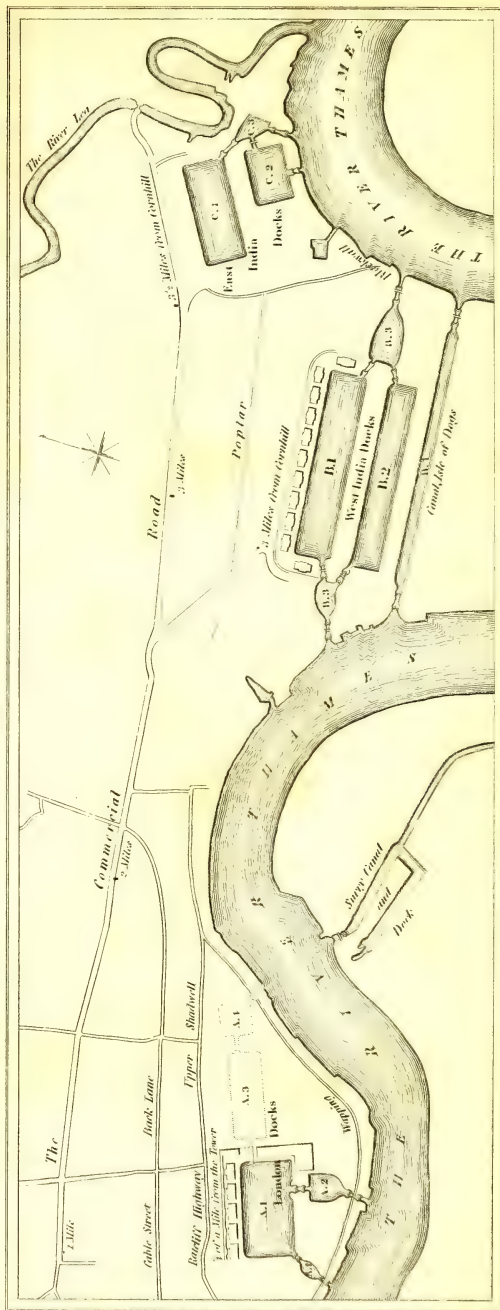




33. The Straits is double of that of London.



PLAN OF THE DOCKS AT LONDON, IN 1803.





1

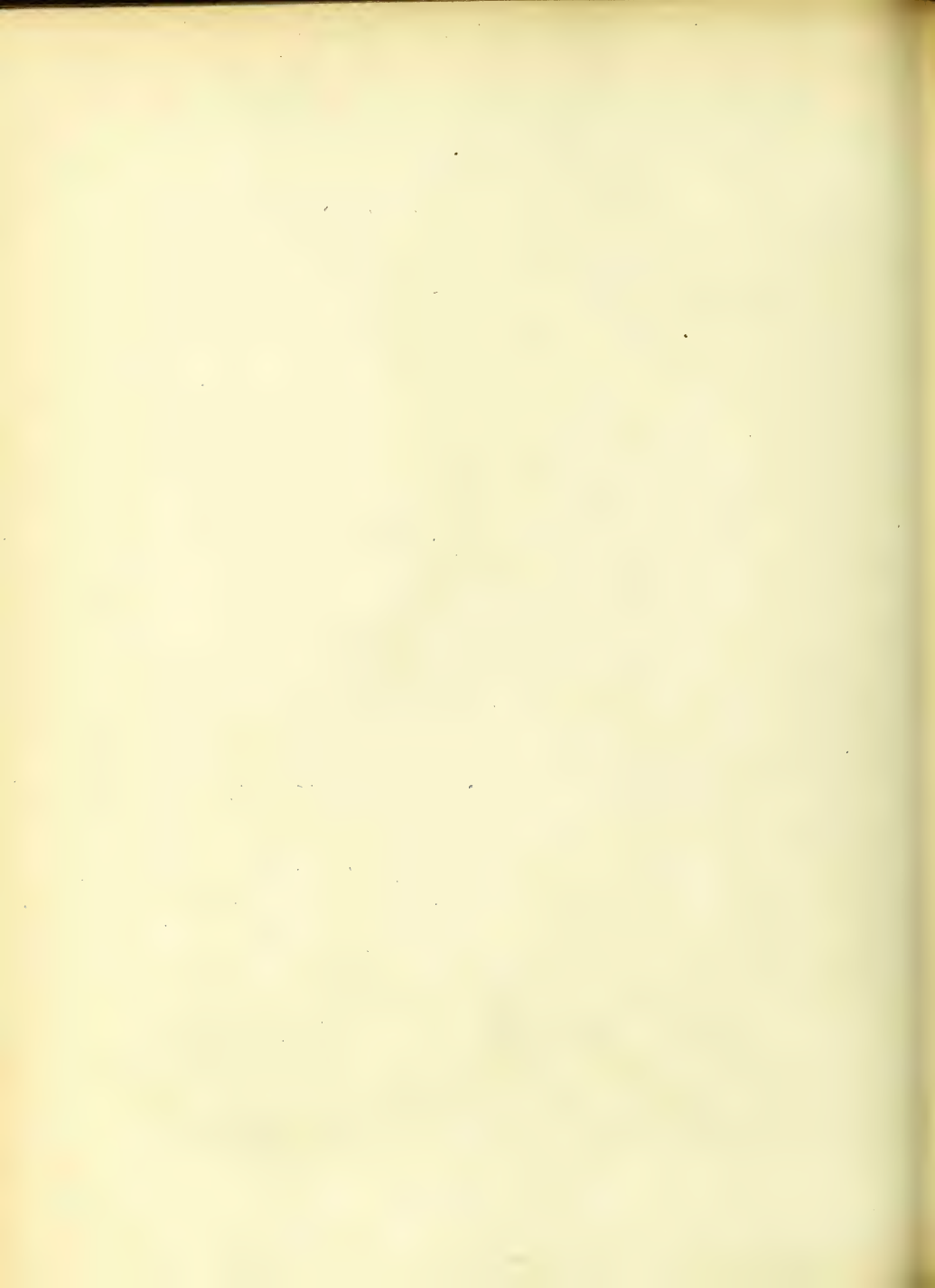
2

3

4

5

6





ISIS MAGNA MATER

From a Bust in the Collection of Charles Townley Esq^r.



DRAWING.

Plate 8.



From an original Drawing by Gaspar Poussin in the Collection of Benjamin West Esq. F. R. S.

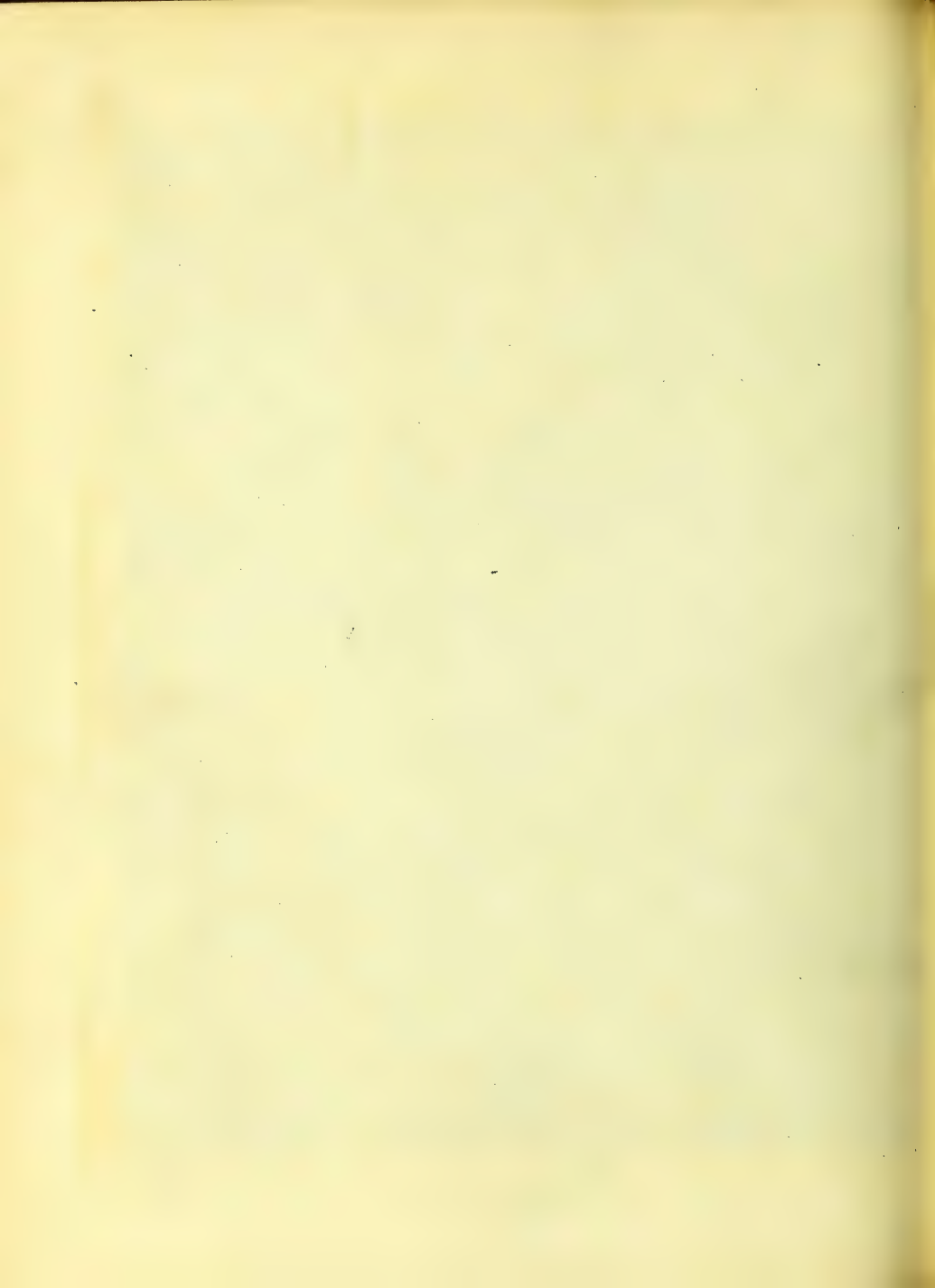
Published by Benjamin West, Esq. & Co. Printers for the Rev. War 48th Street.





From an original Drawing by Gaspar Poussin in the Collection of Benjamin West Esq. F.R.A.

Published by Longman, Hurst, Bosc & Co. Stationers, New, Bay. 6th May



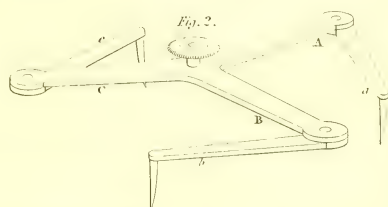
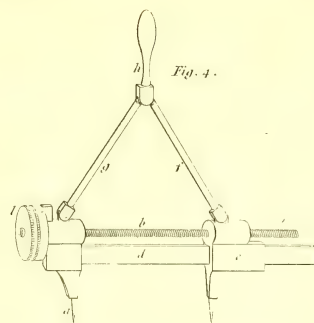
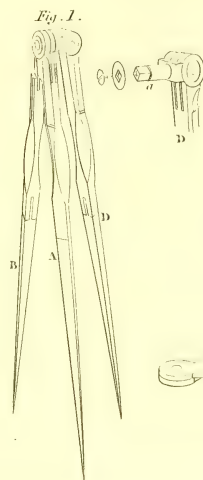
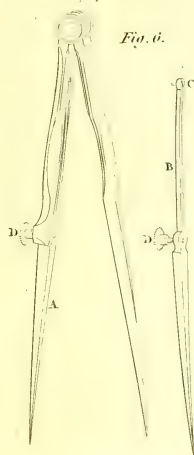


From an Original Drawing in the Collection of the Duke of Devonshire.

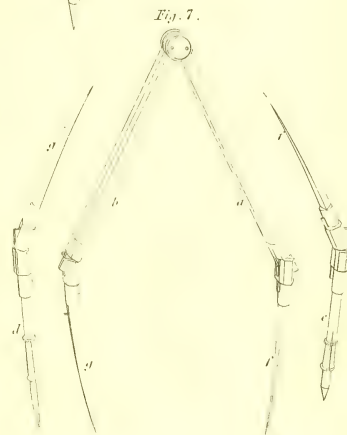
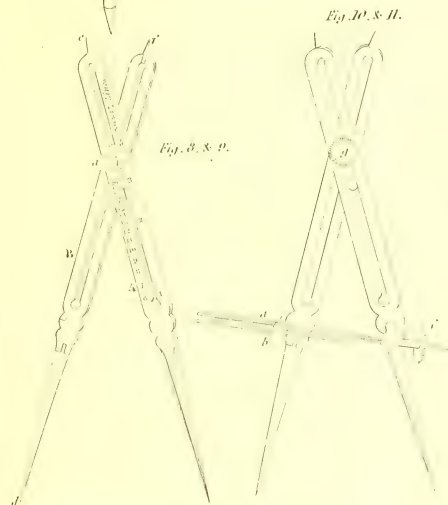
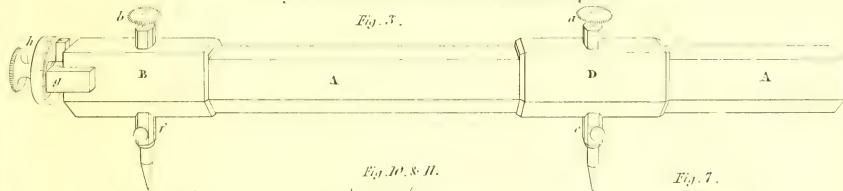
Published as the Directors' Library by Longman, Brown, Green & Co. in 1840.



COMPASSES.



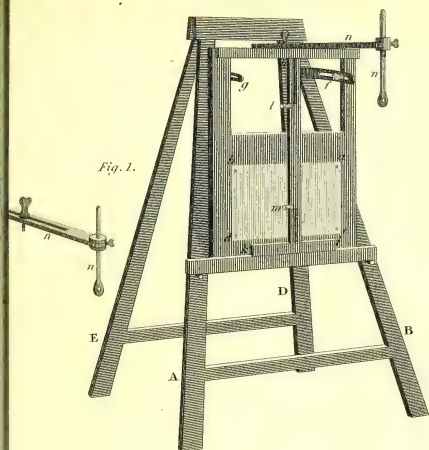
For Fig. 5. of this Plate see Plate TURNING, Fig. 20.





DELINEATORS.

M^r Peacock's delineator.



Miss Edgeworth's delineator.

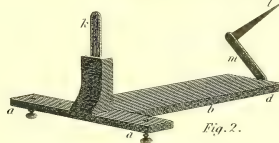


Fig. 2.

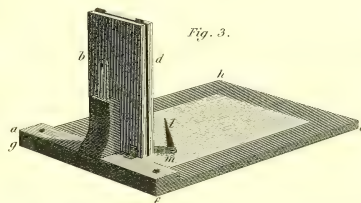


Fig. 3.

*Ramsden's Optigraph
improved by Tho^s. Jones.*

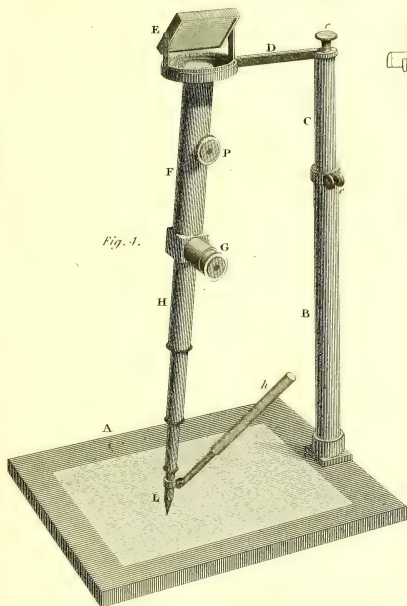


Fig. 4.

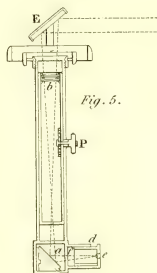
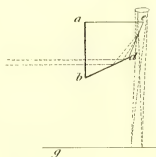


Fig. 5.



Fig. 7.



M^r Wellaston's Camera Lucida.

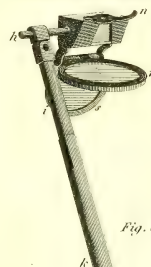


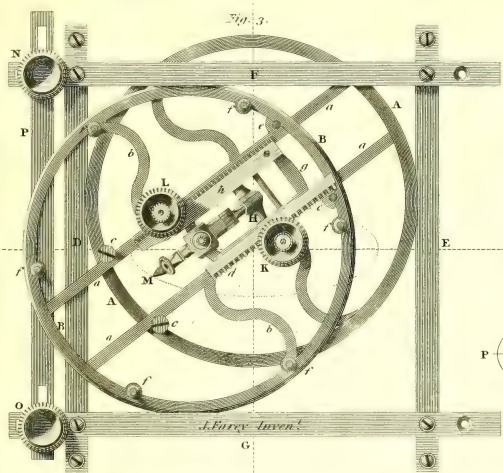
Fig. 6.



DRAWING INSTRUMENTS. OVAL.

PLATE II.

M. Farey's, Elliptograph for drawing Ellipses.



Oval — Fig. 1.

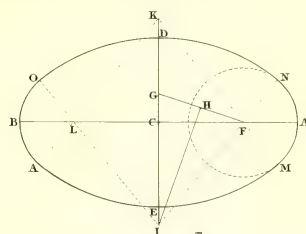


Fig. 6.

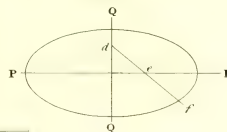


Fig. 2.

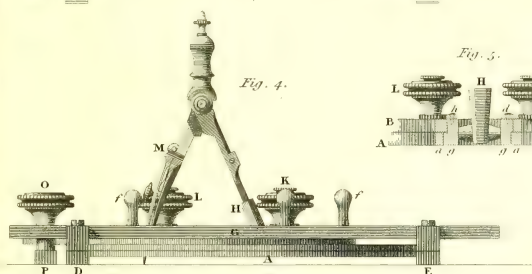
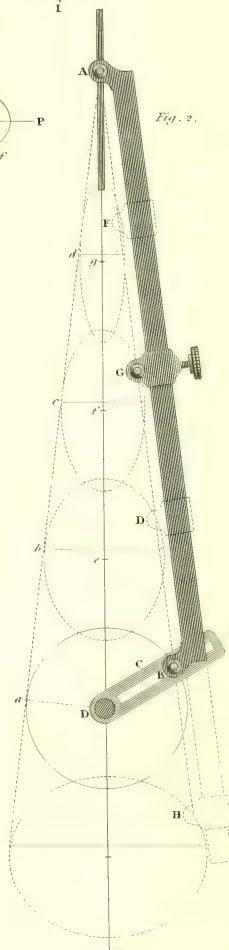
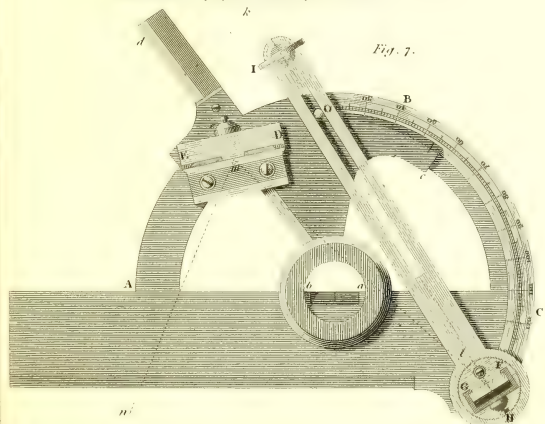
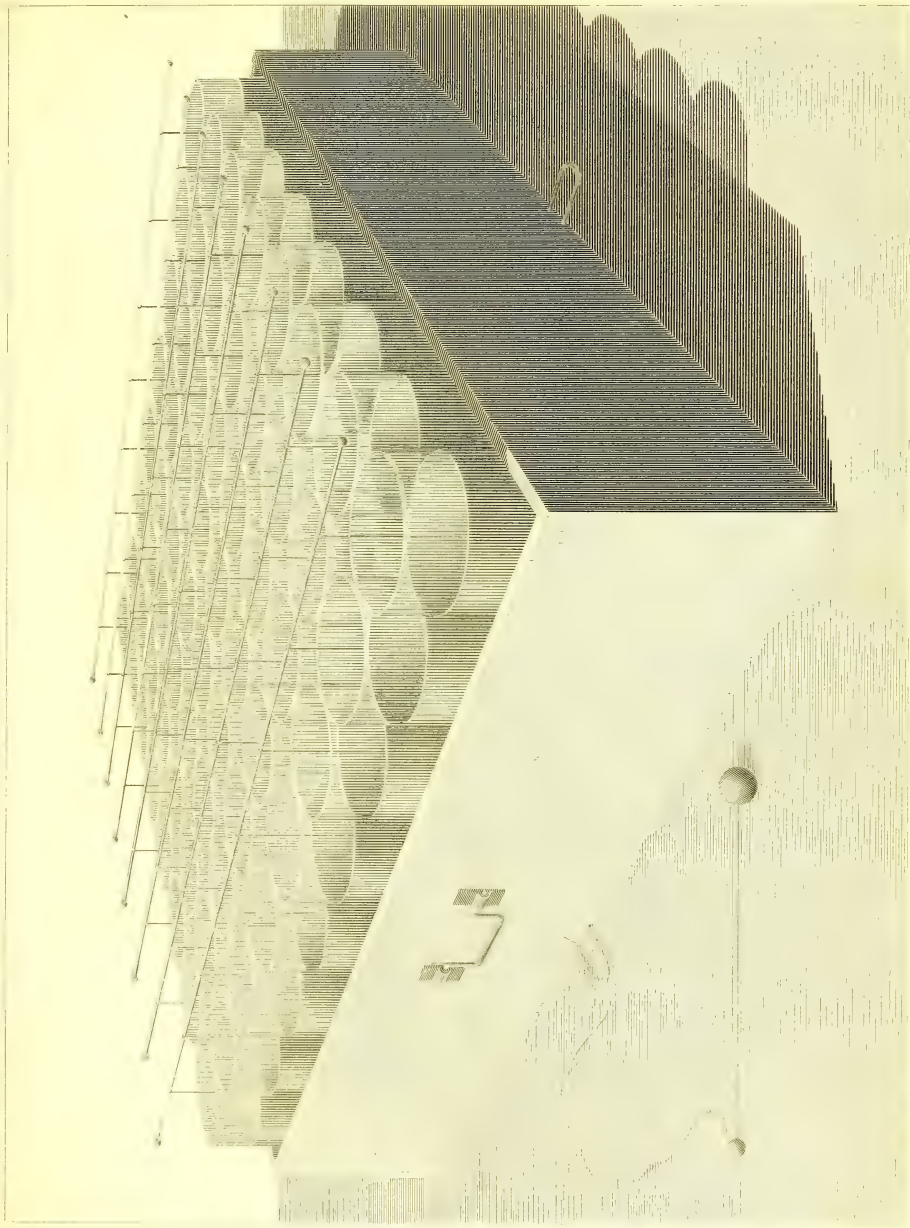


Fig. 5.



Sir Howard Douglas's, Reflecting Protractor.

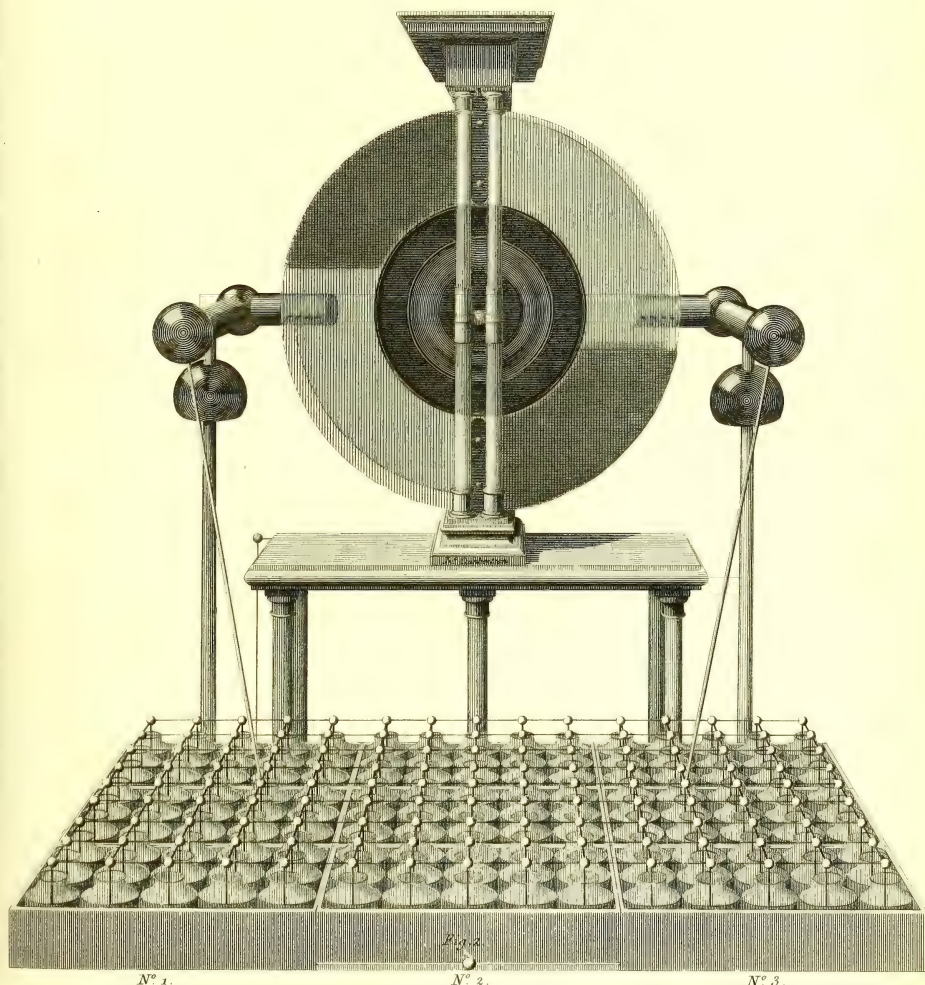






ELECTRICITY.
ELECTRICAL MACHINE & BATTERY.

PLATE I.*



N° 1.

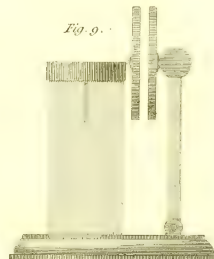
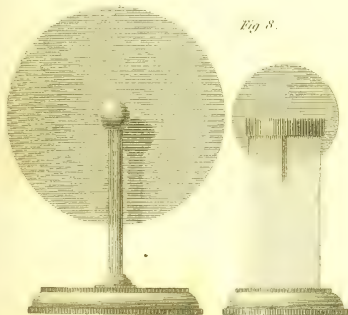
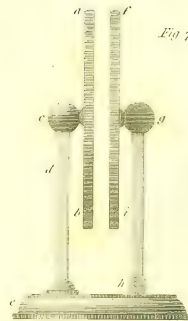
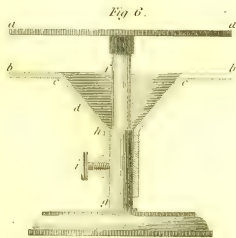
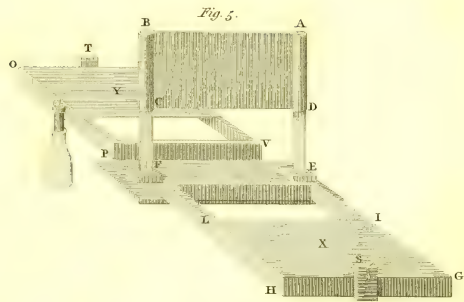
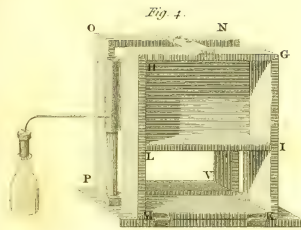
N° 2.

N° 3.



ELECTRICITY. CONDENSERS.

PLATE II.

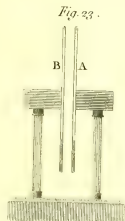
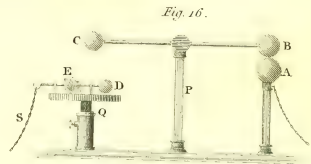
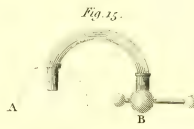
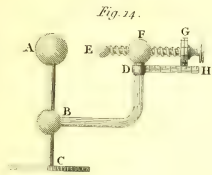
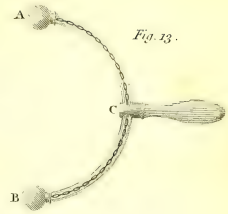
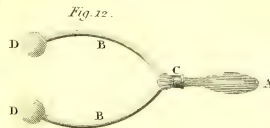
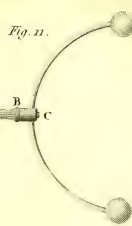
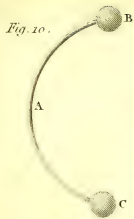




ELECTRICITY.

DISCHARGER AND DOUBLER.

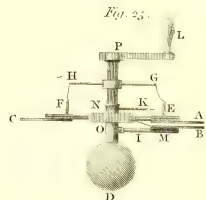
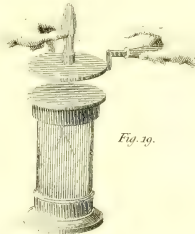
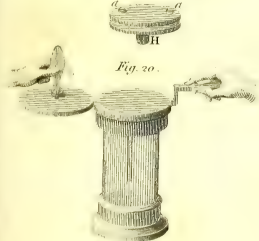
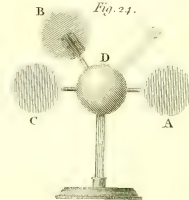
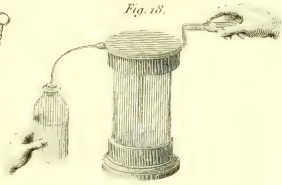
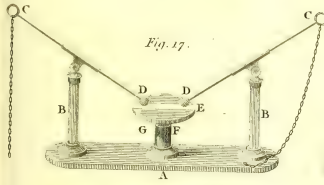
PLATE III.



M^{re} CAVALLO'S DOUBLER.



Fig. 21.





ELECTRICITY.

ELECTRICAL EXPERIMENTS.

PLATE IV.



Fig. 26.

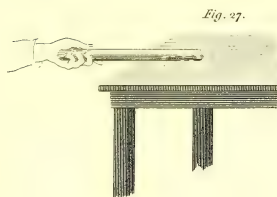


Fig. 27.

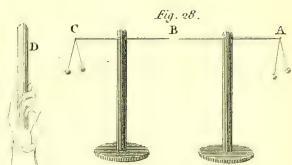


Fig. 28.



Fig. 29.

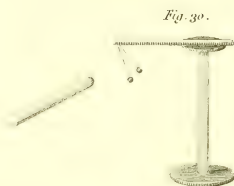


Fig. 30.

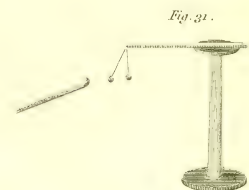


Fig. 31.



Fig. 32.

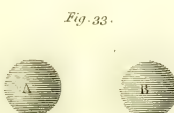


Fig. 33.

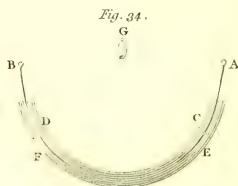


Fig. 34.

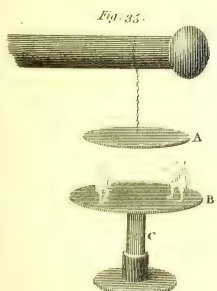


Fig. 35.

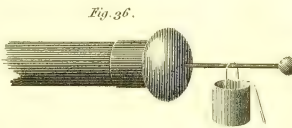


Fig. 36.

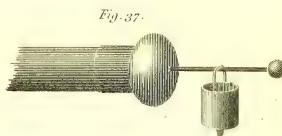


Fig. 37.



ELECTRICITY.

ELECTRICAL EXPERIMENTS.

PLATE V.

Fig. 38.

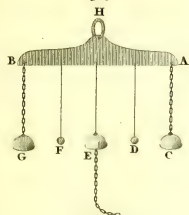


Fig. 39.

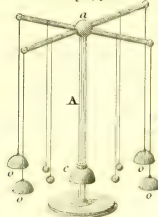


Fig. 40.

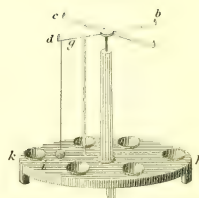


Fig. 41.

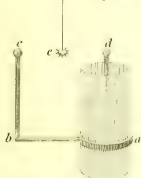


Fig. 42.



Fig. 43.

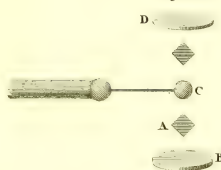


Fig. 44.



Fig. 45.

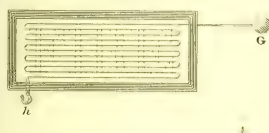


Fig. 46.



Fig. 47.



Fig. 48.

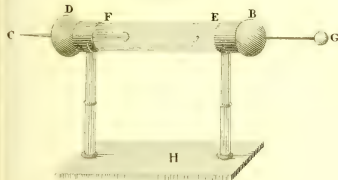


Fig. 49.

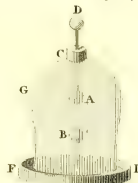
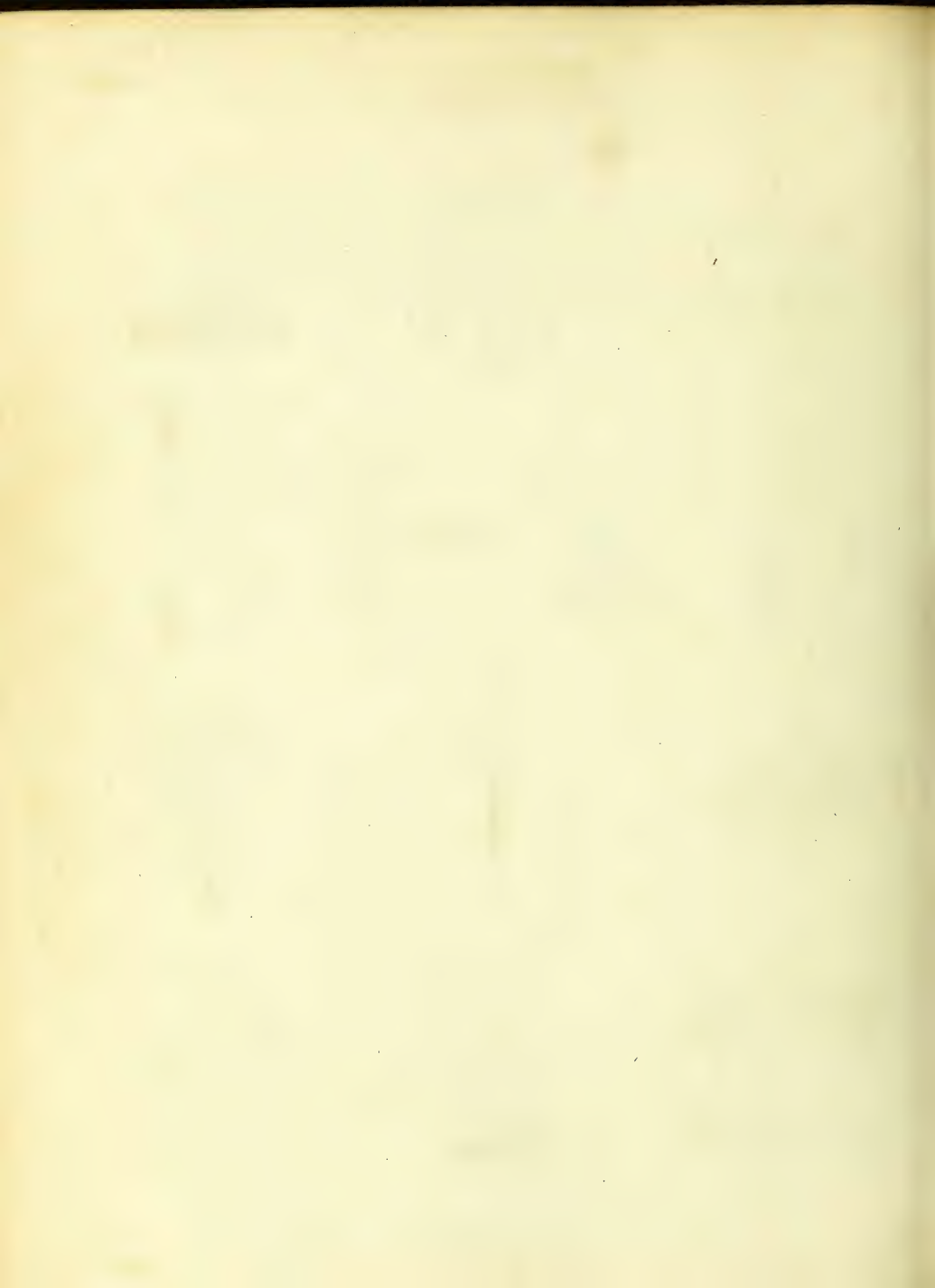


Fig. 50.





ELECTRICITY.

PLATE

CONFIGURATIONS.





ELECTRICITY. EXPERIMENTS.

PLATE VII & XIV.

Fig. 51.

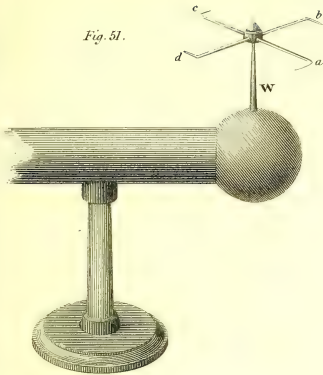


Fig. 52.

ELECTRICAL Flyers.

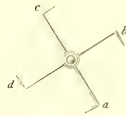


Fig. 53.

INFLAMMABLE AIR Pistol.

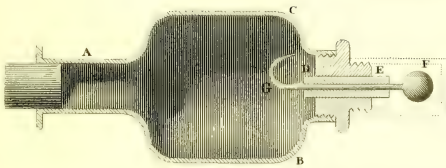


Fig. 54.

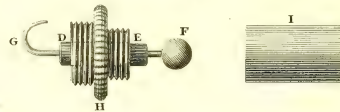
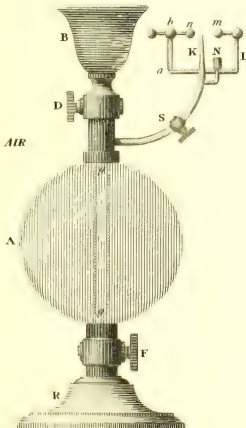


Fig. 55.

M. Volta's
INFLAMMABLE AIR
Lamp.



ELECTROPHORUS.

PLATE XIV.

Fig. 2.

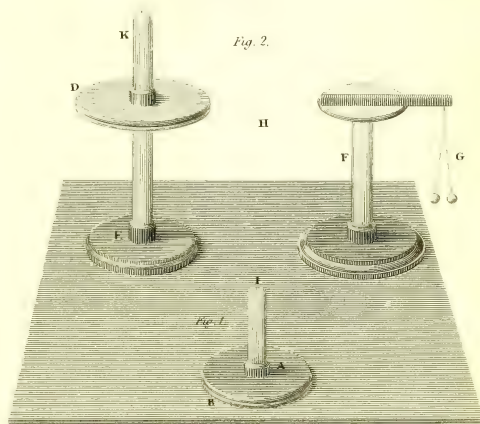


Fig. 1.



—IRRE NOLLETS.

Fig. 3.

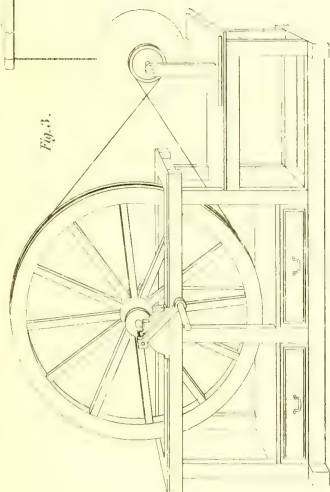
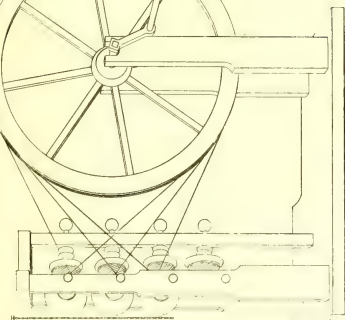


Fig. 4.



DA WILSON'S.

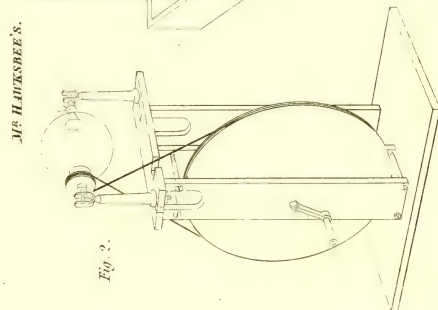


Fig. 2.

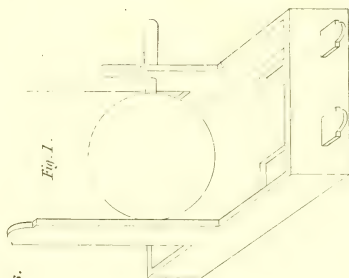


Fig. 1.

MR HADKESBEE'S.

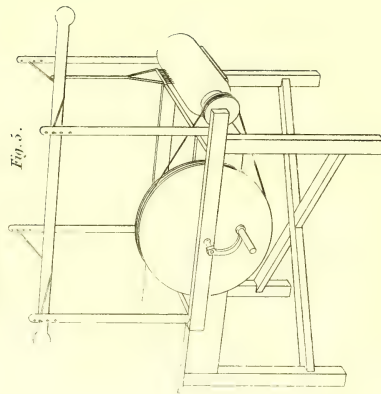


Fig. 5.

MR WILSON'S.

Fig. 9.

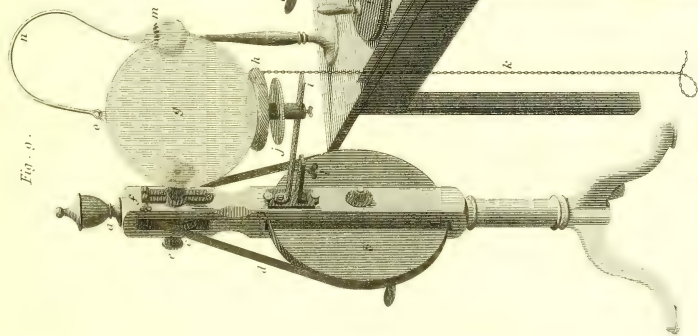


Fig. 6.

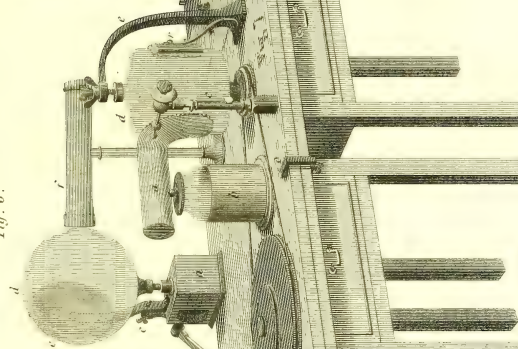
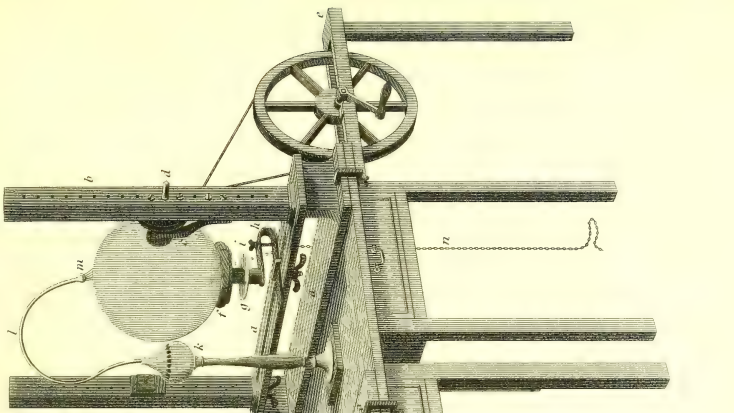


Fig. 8.





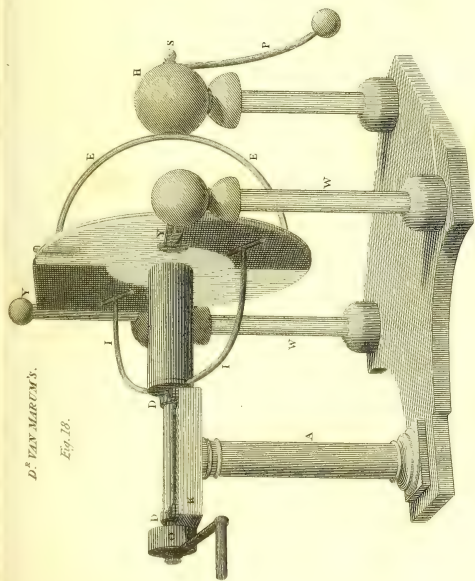


Fig. 1b.

D. VAN MURRAY'S.

Fig. 1b.

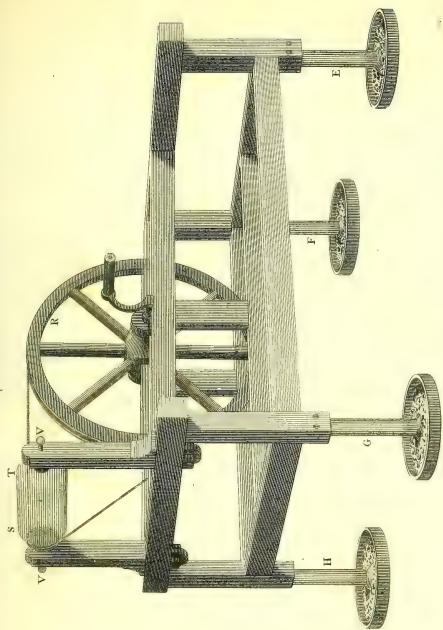


Fig. 1a.

Fig. 1c.

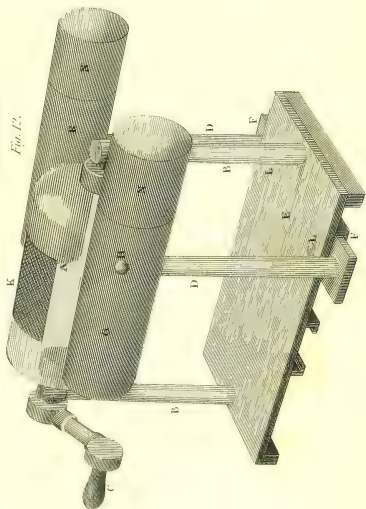


Fig. 1c.

Fig. 1c.

COMMON MACHINE.

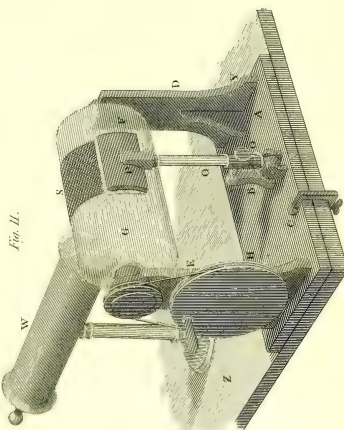
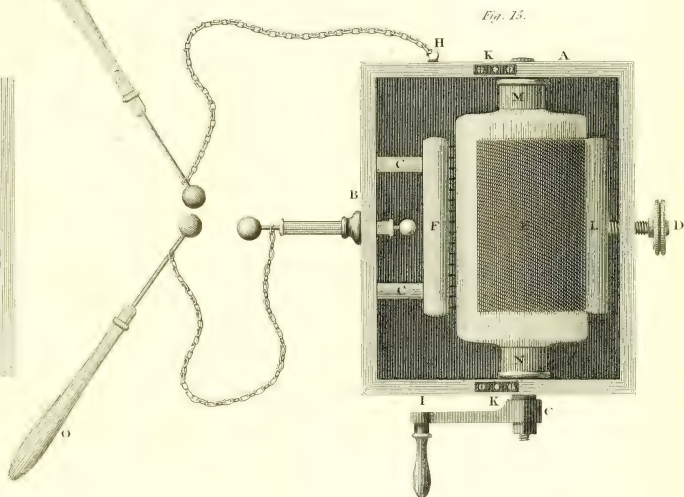
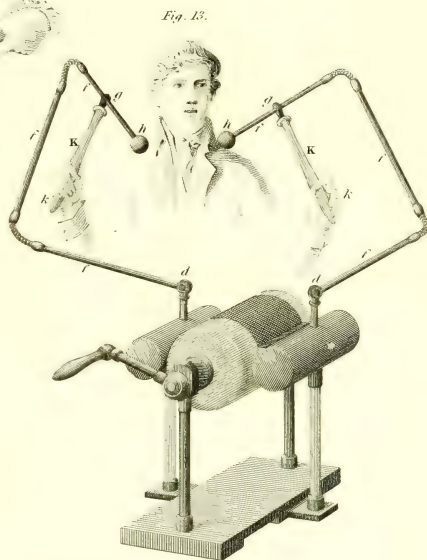
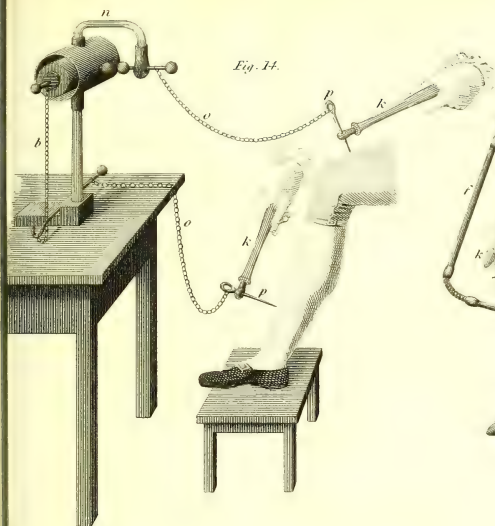


Fig. 1d.



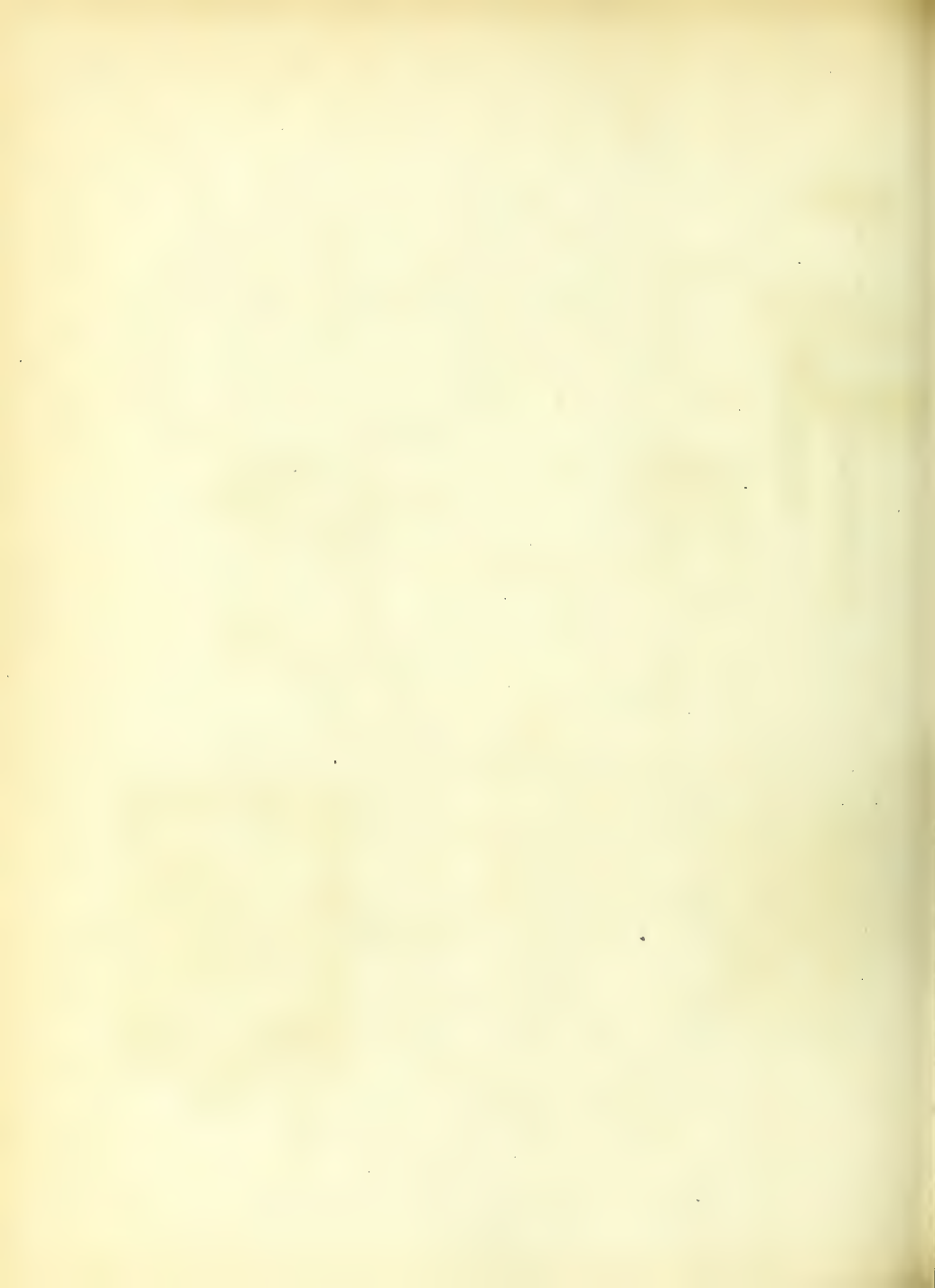
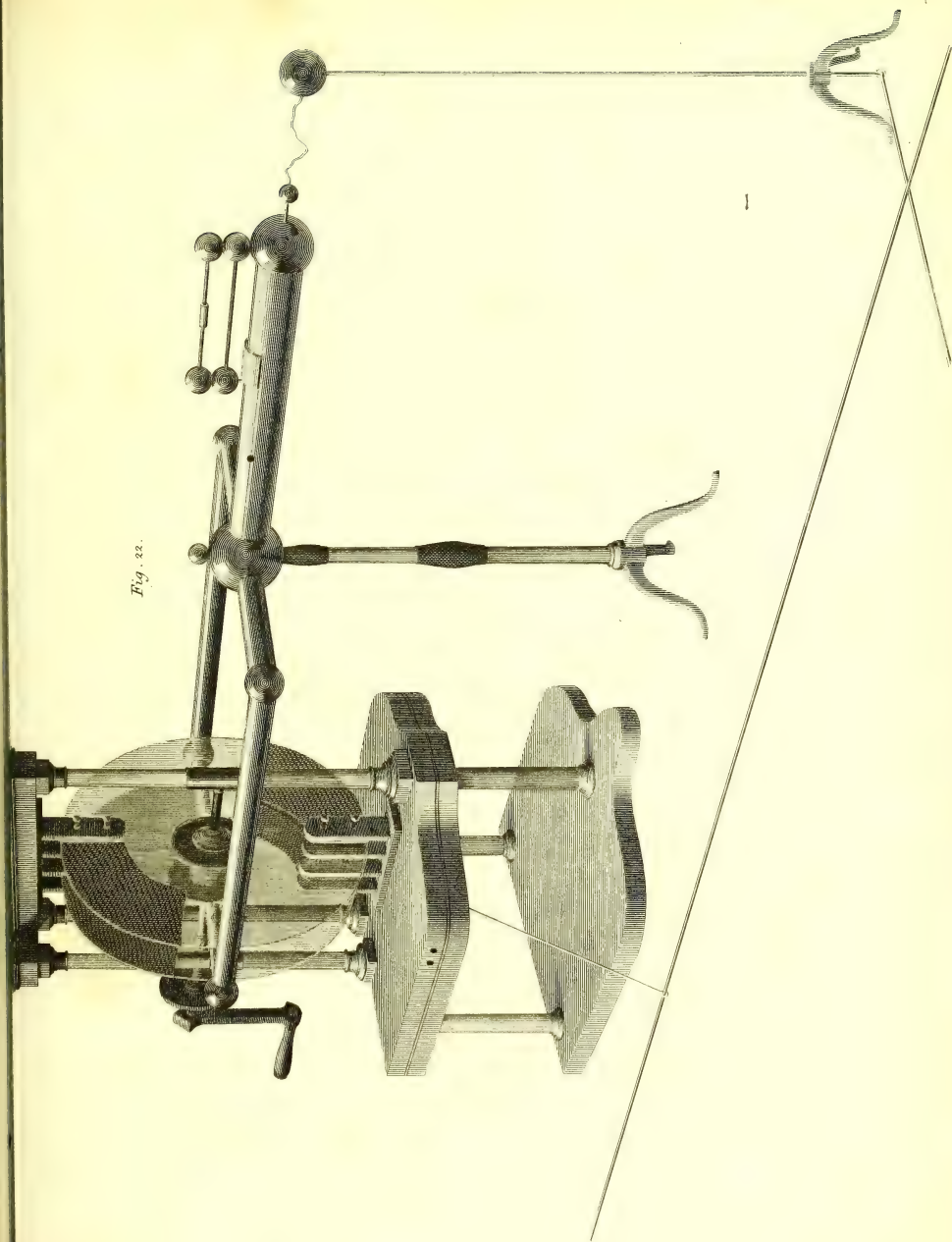


Fig. 22.

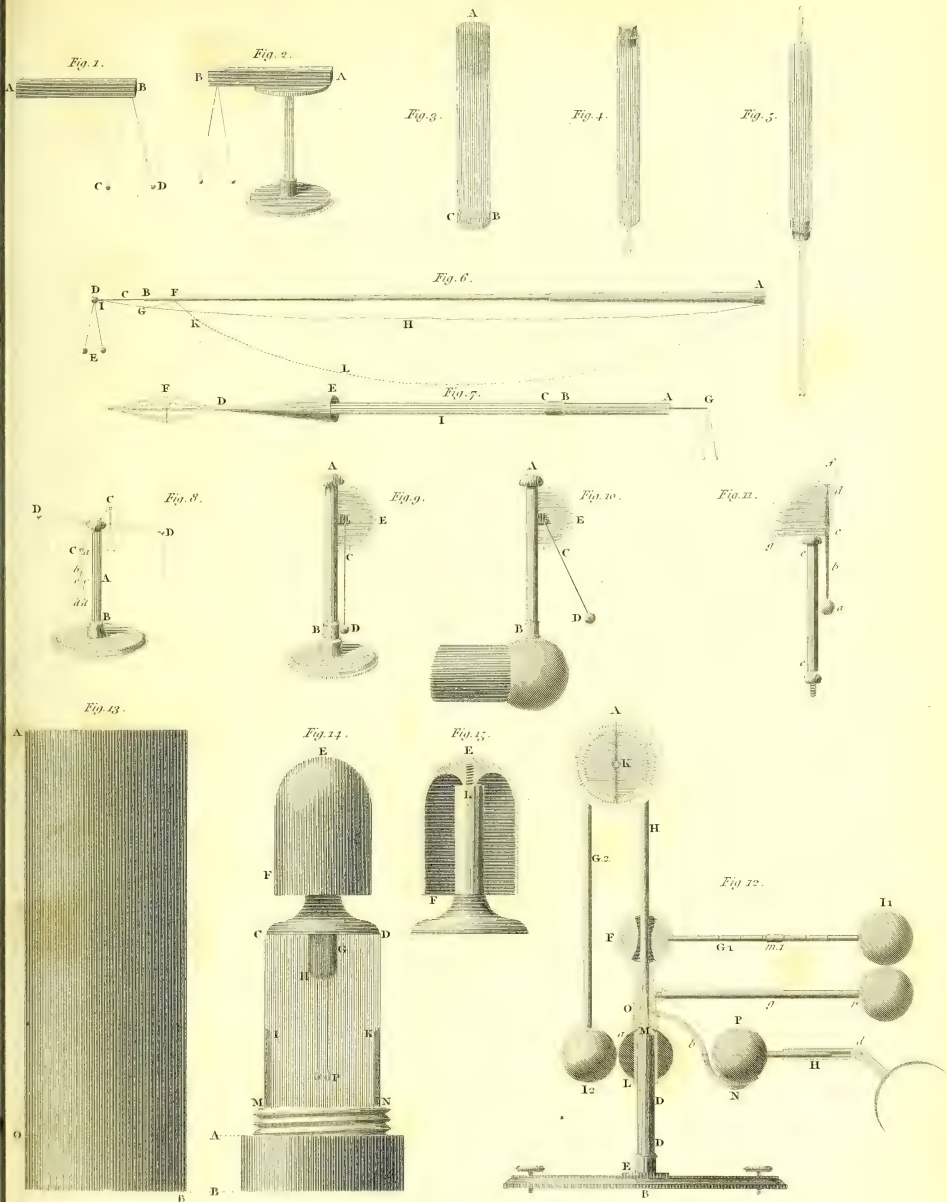


Published as the Act directs Augth 28th 1864, by Longman & Beal, Paternoster Row.

Engraved by Wilson Lowry

ELECTRICITY. ELECTROMETER.

PLATE XLII AND XLIII.



ELECTRICITY. ELECTROMETER.

PLATE XIII.

For Figs. 13, 14, & 15, see PL. XII.

Fig. 16.

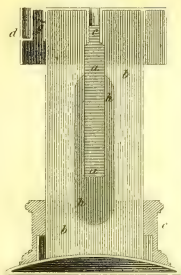


Fig. 17.

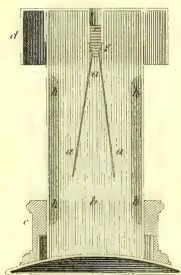


Fig. 18.

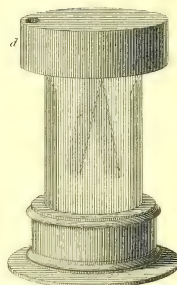


Fig. 19.

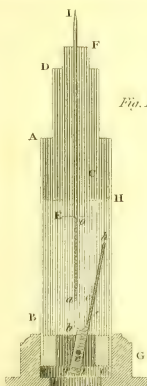


Fig. 20.

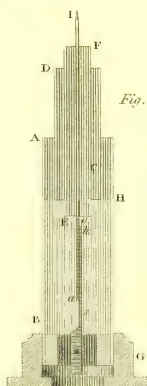


Fig. 21.

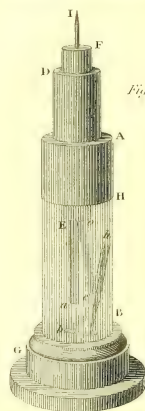


Fig. 22.

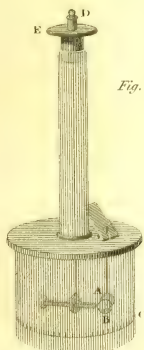
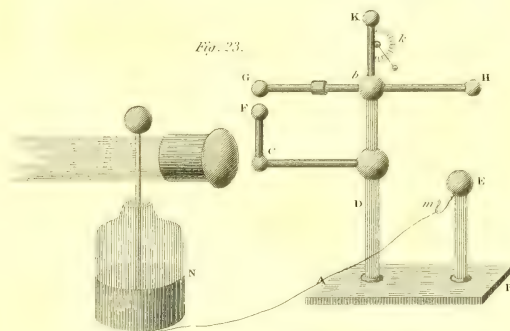
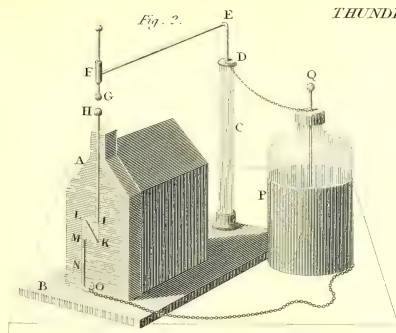
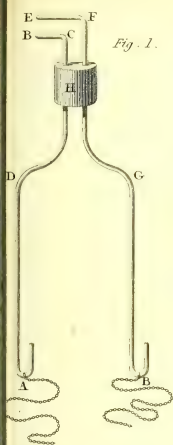


Fig. 23.

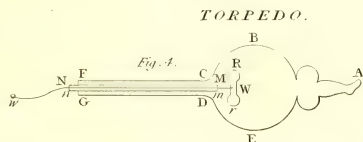
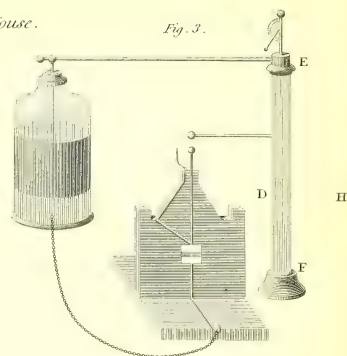




MEDICAL ELECTRICITY.



THUNDER House.



BRUSH.

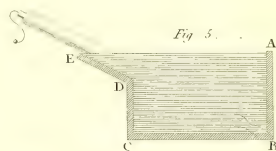
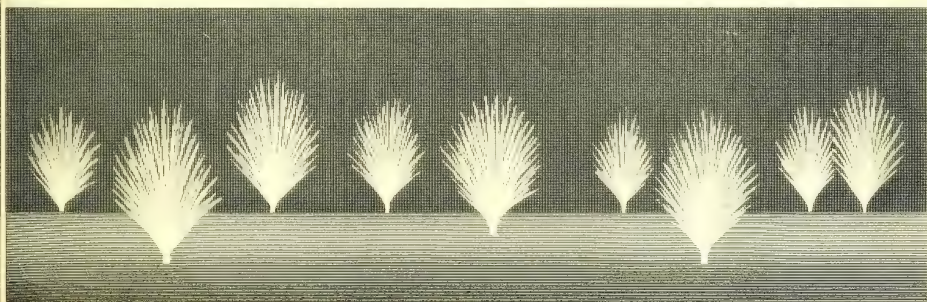
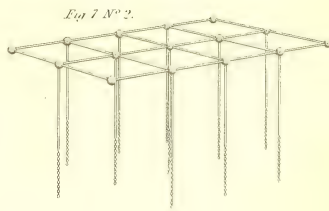
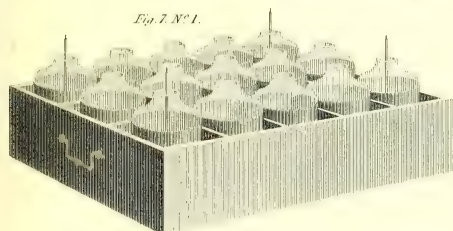


Fig. 6.

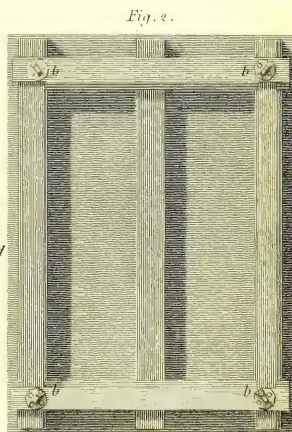
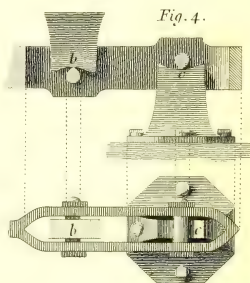
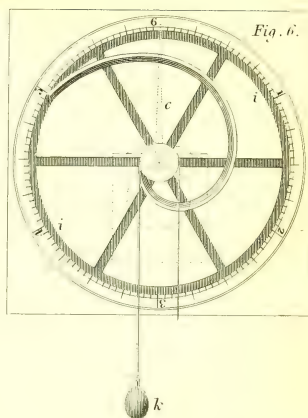
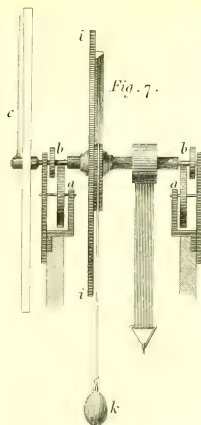
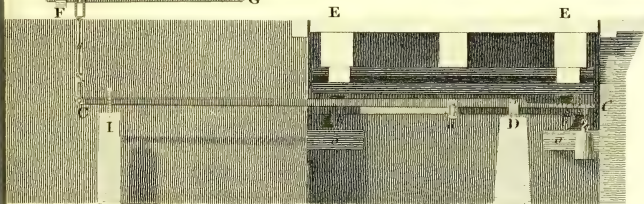
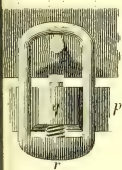
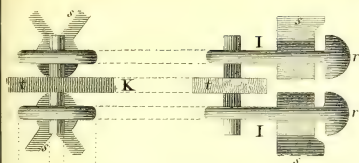


Inside connecting Frame of Tyler's BATTERY.



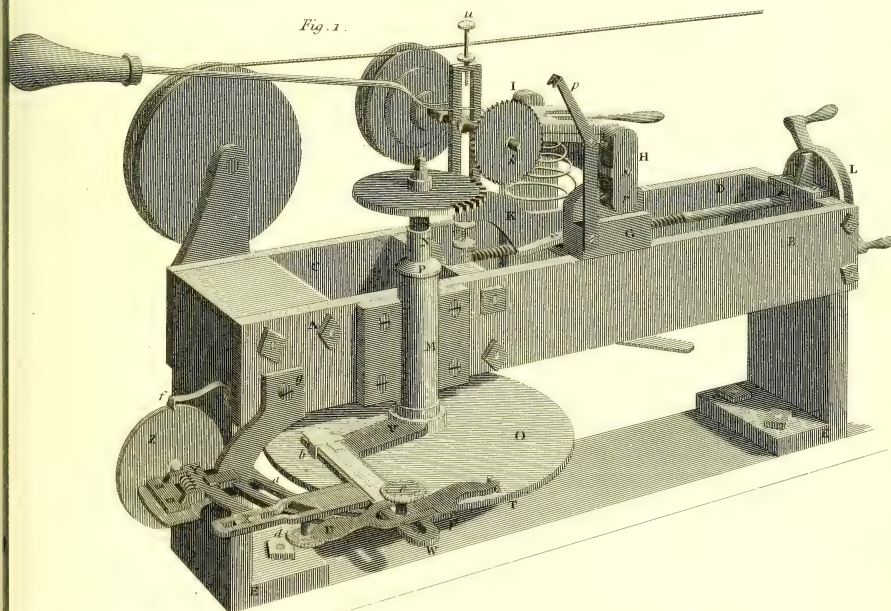
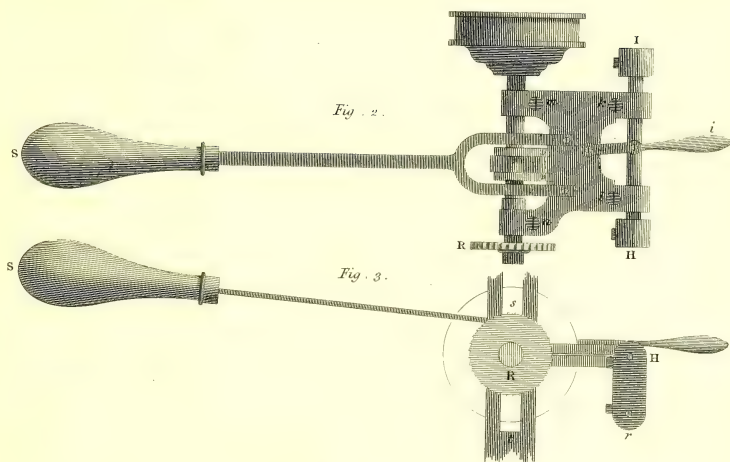


MR. R. SALMON'S WEIGHING MACHINE.



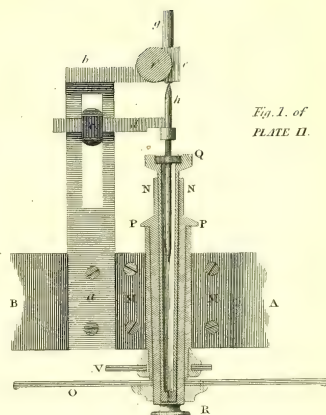
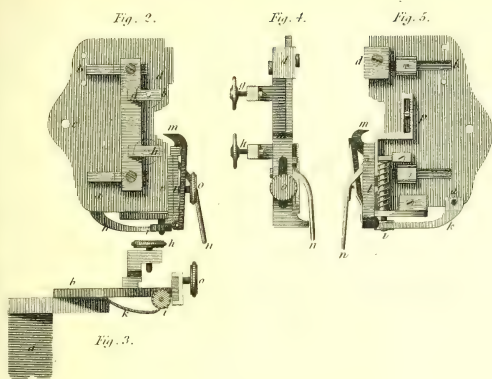


Cutting Engine by Hindley.



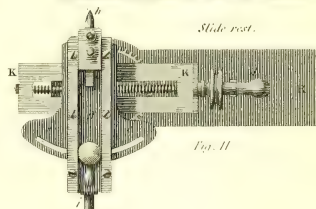
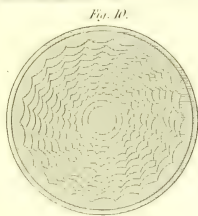
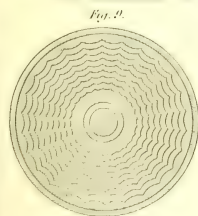
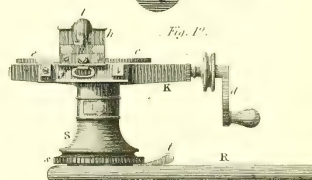
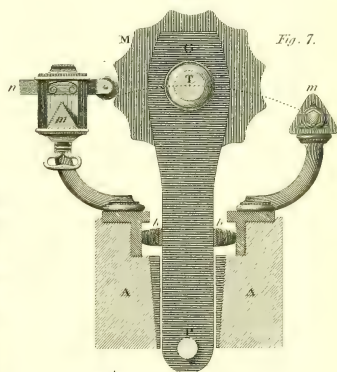
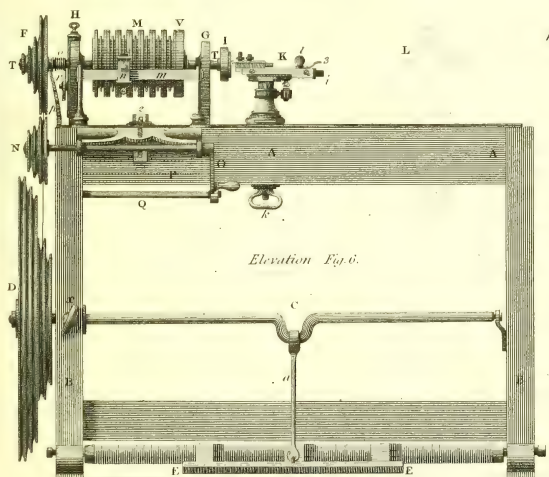
ENGINES. CUTTING ENGINE.

PLATE III.



Rose Engine or Figure Lathe made by Messrs

Holtzapf & Deyheren.



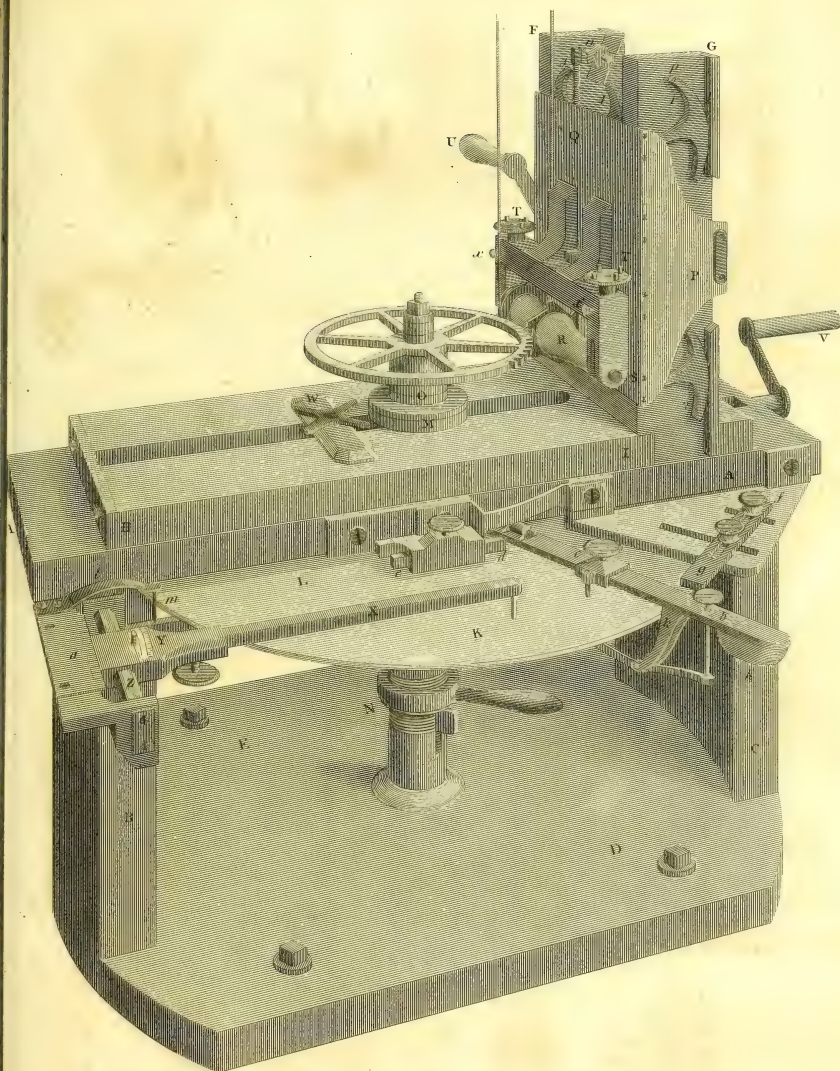
Slide rest.



ENGINES.

PLATE IV.

Cutting ENGINE by Rehe.



CUTTING ENGINE by REBE

Fig. 3.

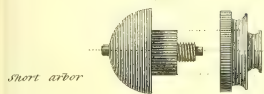


Fig. 2.

For annular wheels

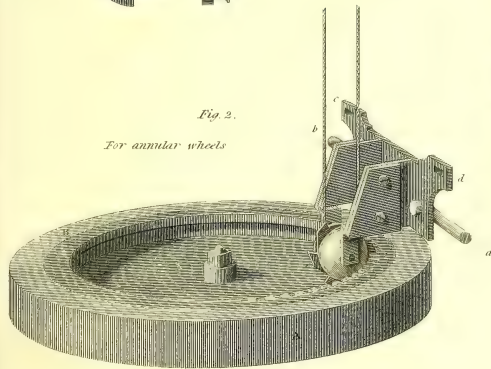


Fig. 1.

For worm wheels

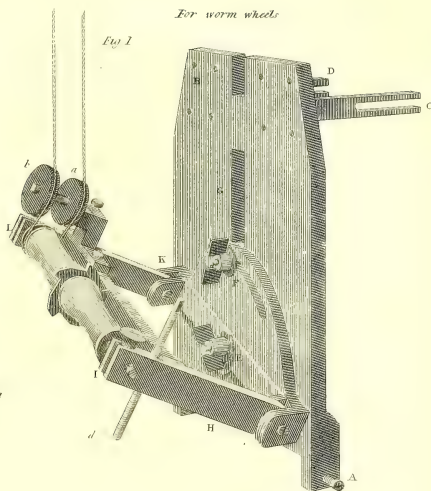


Fig. 4.

Wheel fixed on the arbor of the Engine

For Rack

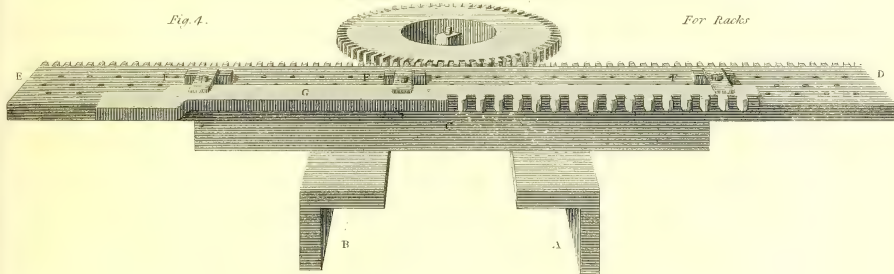
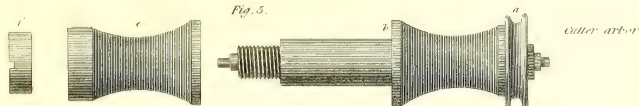


Fig. 5.



ENGINES.
For sharpening Cutters
BY REHE.

PLATE VI.

Fig. 1.

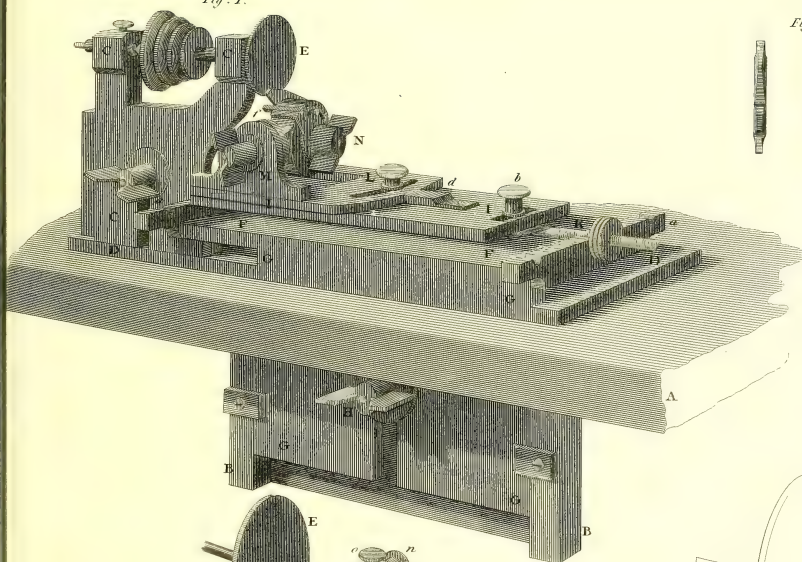


Fig. 2.

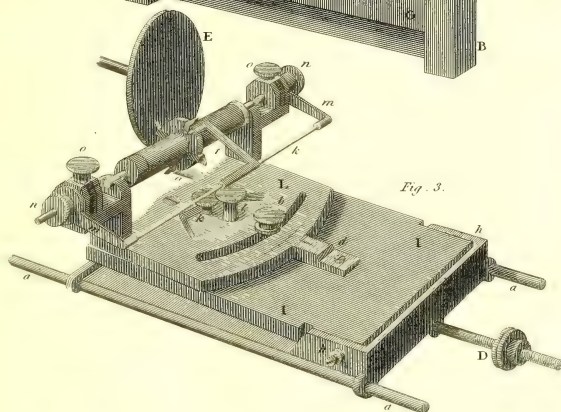


Fig. 3.

Fig. 4.

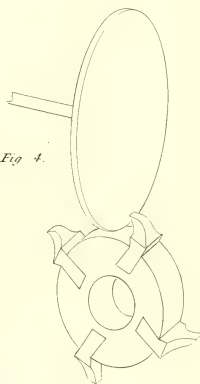


Fig. 5.

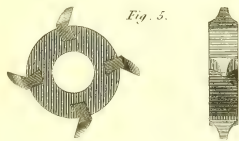
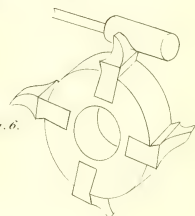
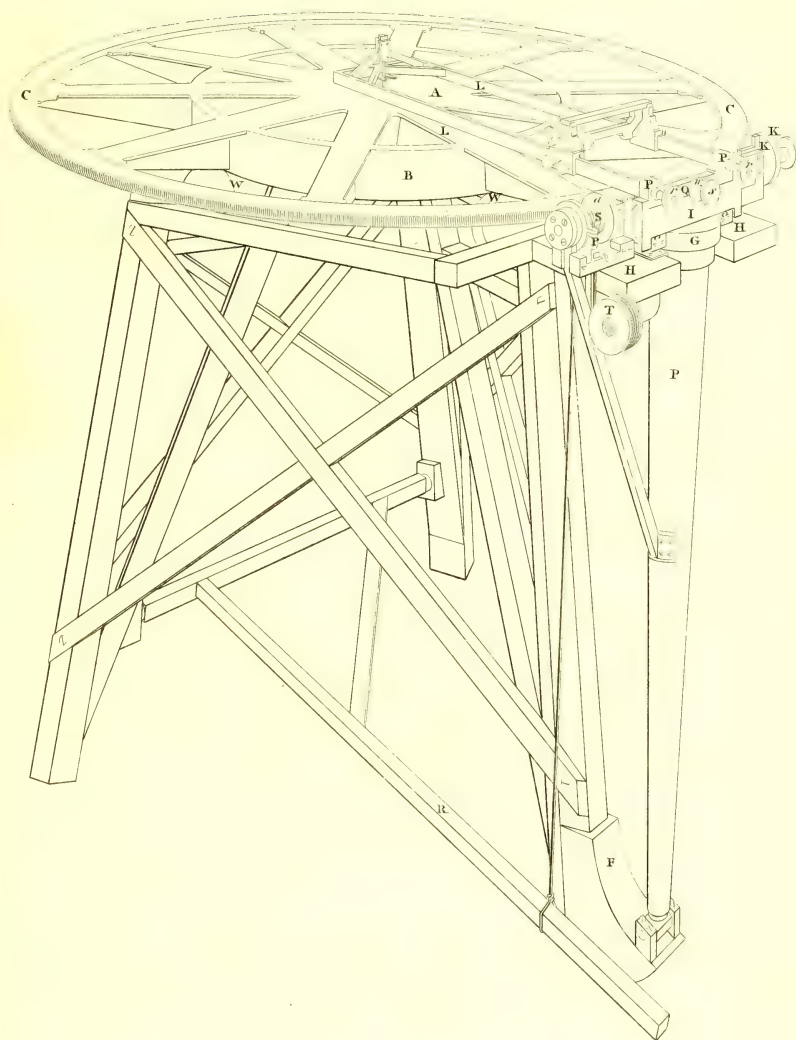


Fig. 6.



A perspective View of M^r RAMSDEN'S dividing Engine.



M^r RAMSDEN'S DIVIDING ENGINE.

Fig. 2.
PLAN
of the Great Wheel.

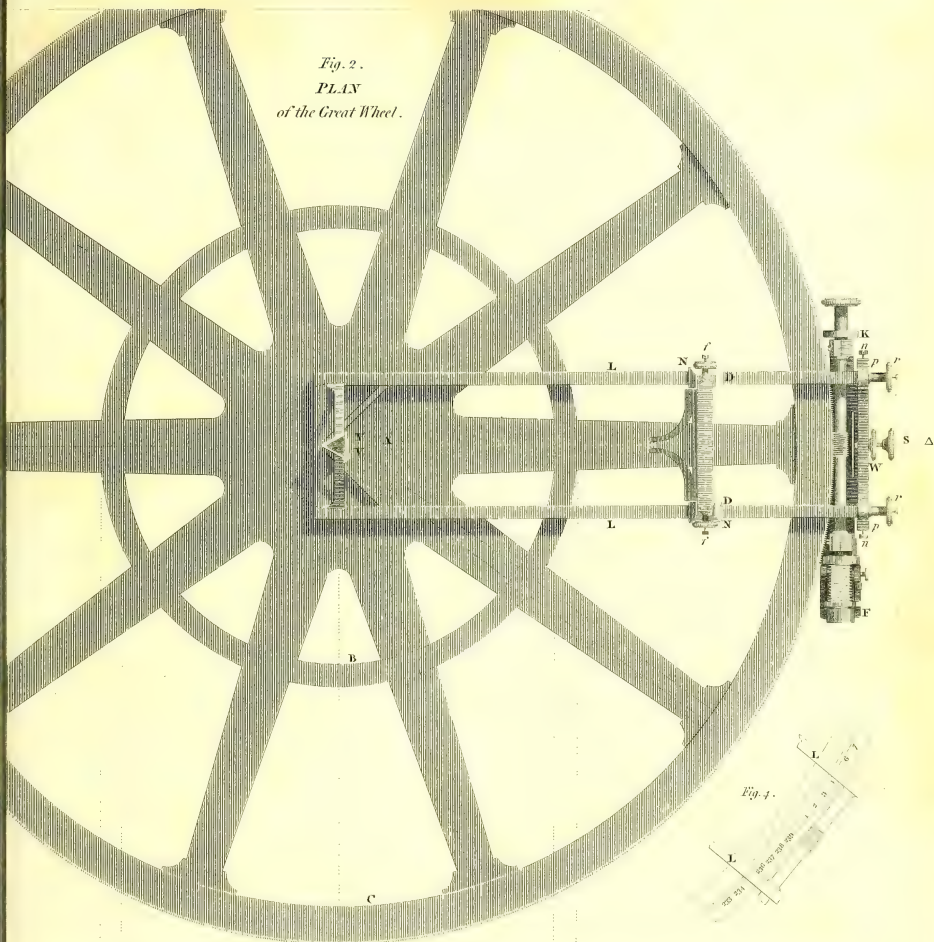


Fig. 4.

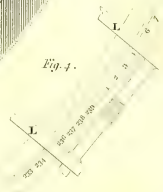
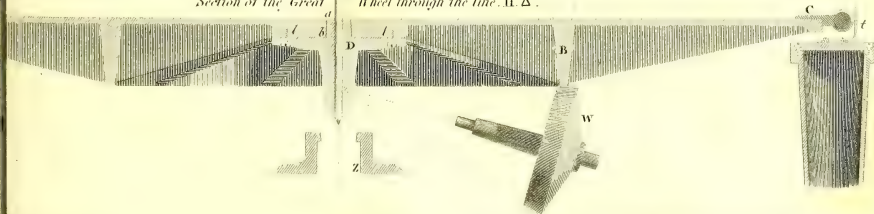


Fig. 3.
Section of the Great
Wheel through the line. II Δ.



ENGINES.

PLATE IX.

M^{rs} RAMSDENS DIVIDING ENGINE.

Section of the screw.

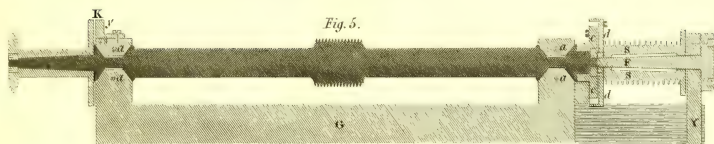


Fig. 5.

Fig. 6.



Fig. 7.

Q

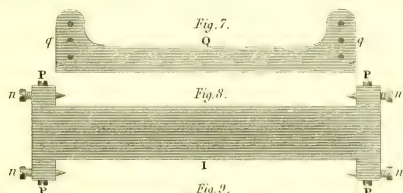


Fig. 8.

Fig. 9.

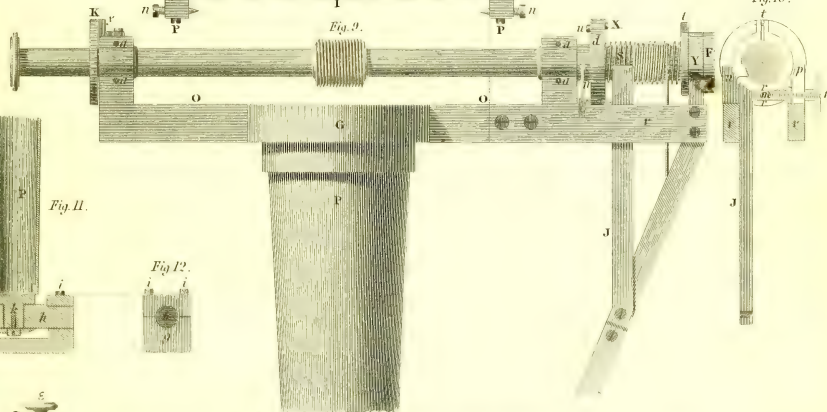


Fig. 10.

Fig. 11.

Fig. 12.

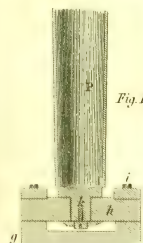


Fig. 13.

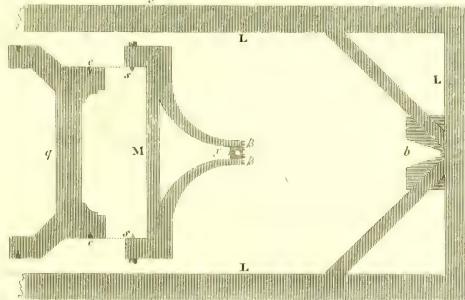
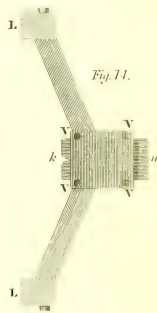
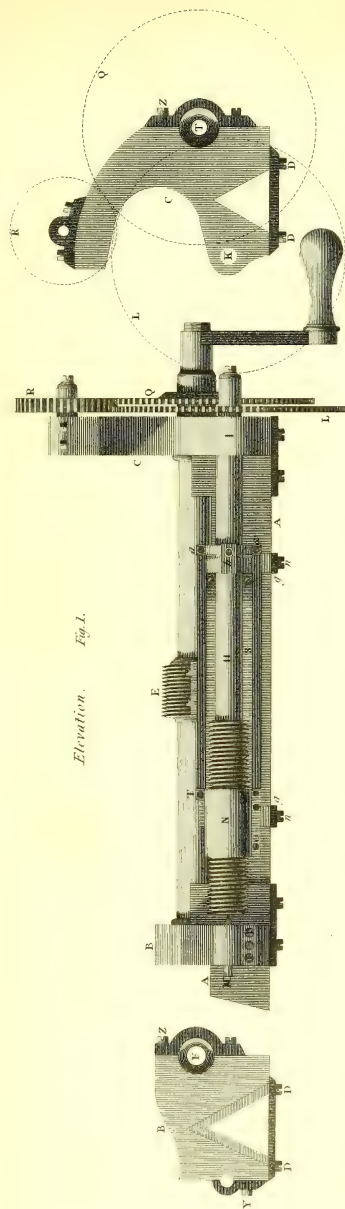
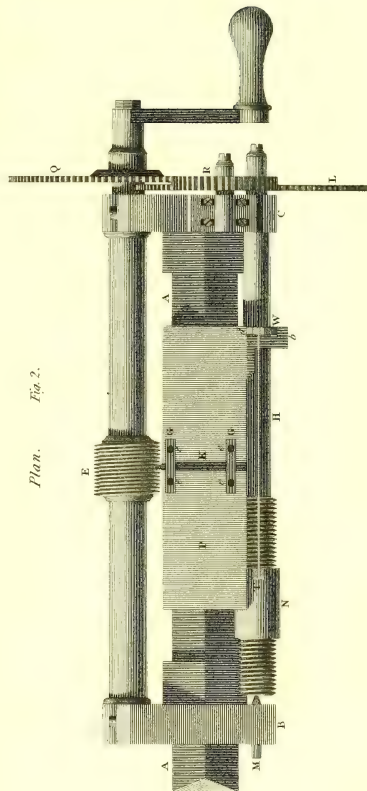


Fig. 14.





Elevation. Fig. 1.



Plan. Fig. 2.



Fig. 3.

Plan Fig. 1.

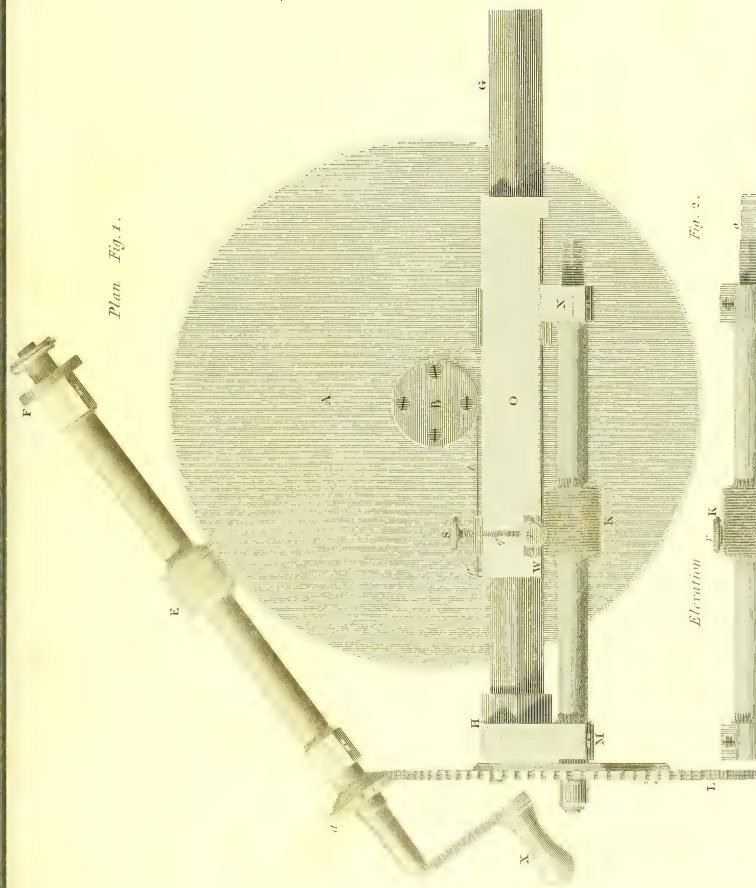
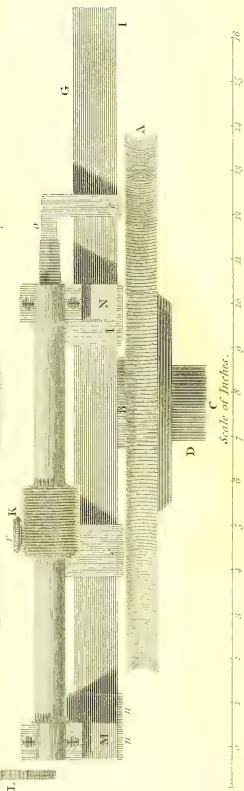


Fig. 2.

Elevation



Scale of Inches. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Fig. 3.

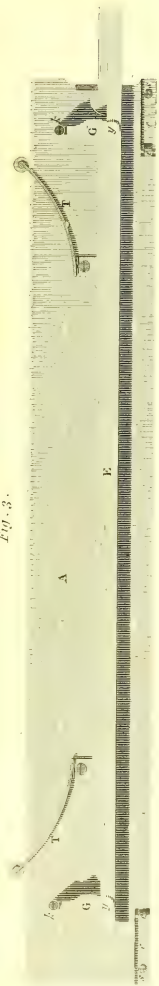


Fig. 1.

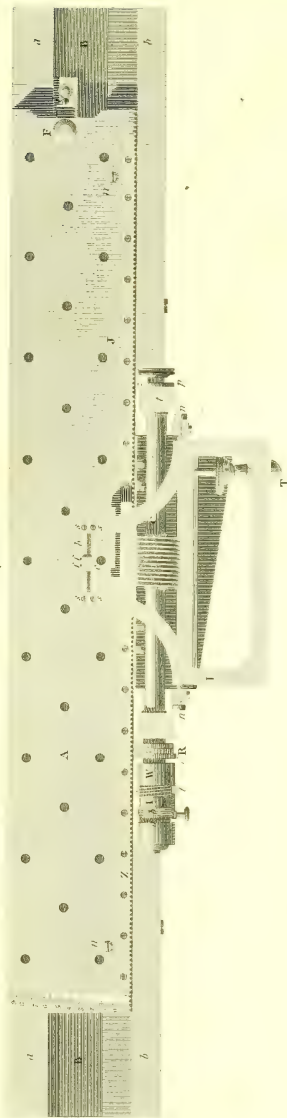


Fig. 2.

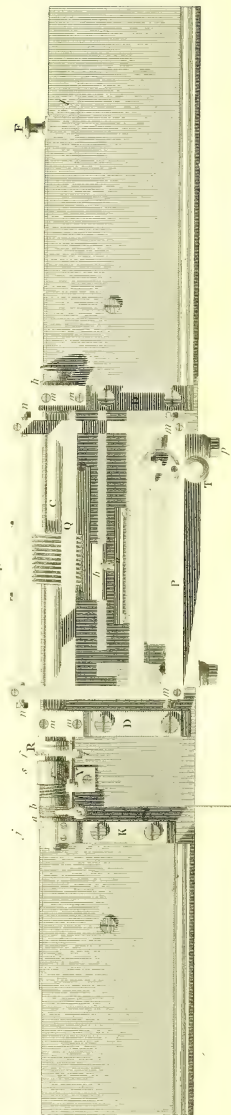




Fig. 1.

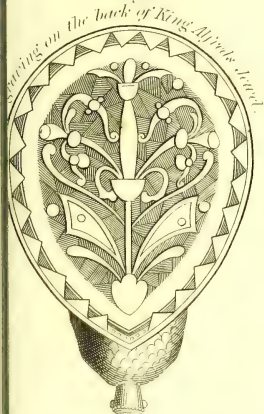
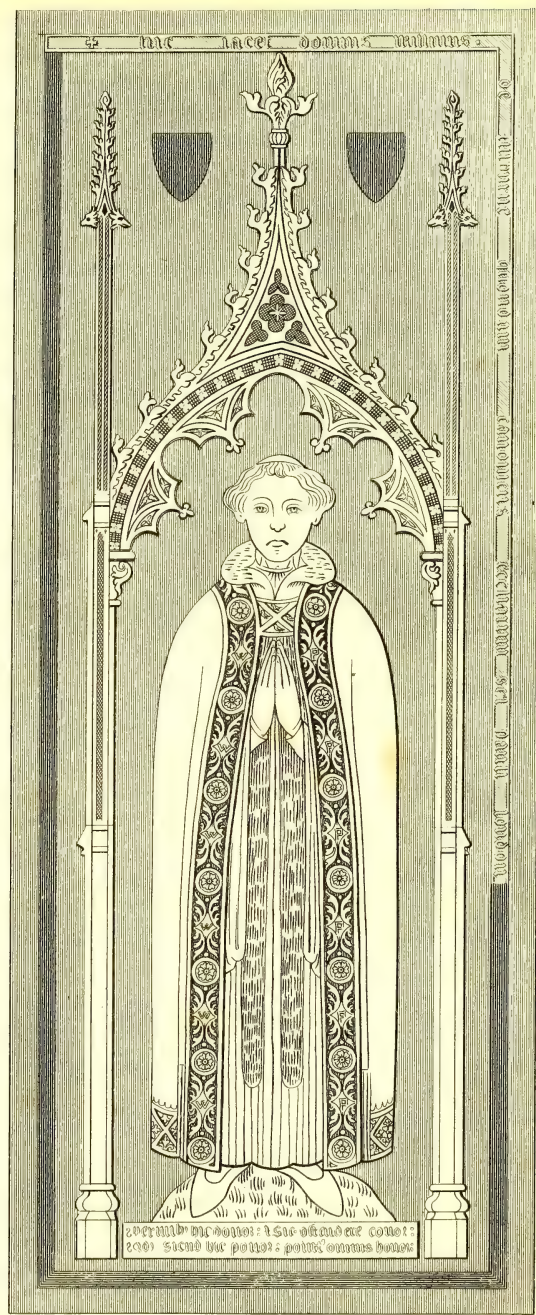


Fig. 2.

Fig. 3.



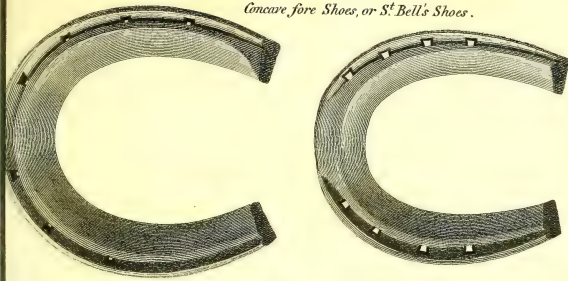
London 18.



FARRIERY.
HORSE SHOEING.

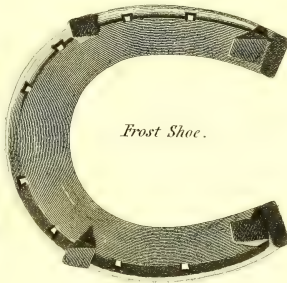
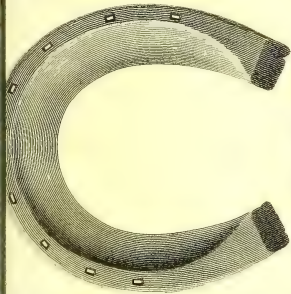
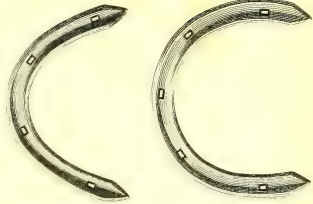
PLATE I.

Concave fore Shoes, or St. Bell's Shoes.



Racing hind Shoe.

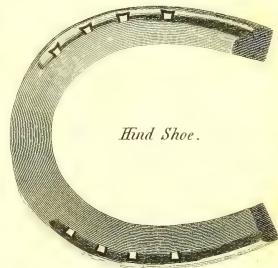
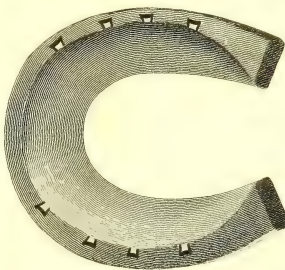
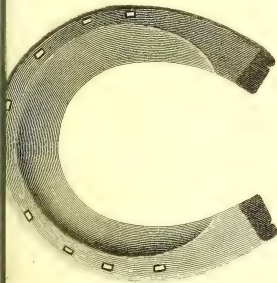
Racing fore Shoe.



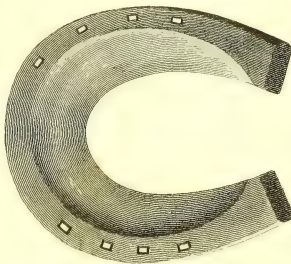
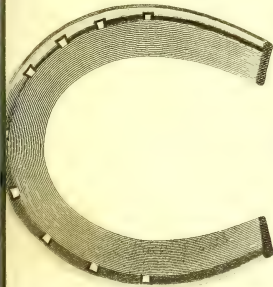
Frost Shoe.



Shoe to prevent cutting.



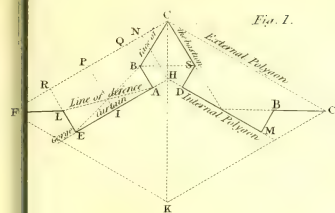
Hind Shoe.



Fore Shoe with a joint in the toe.

BASTION.

Fig. 1.



CAVALIER.

Fig. 2.

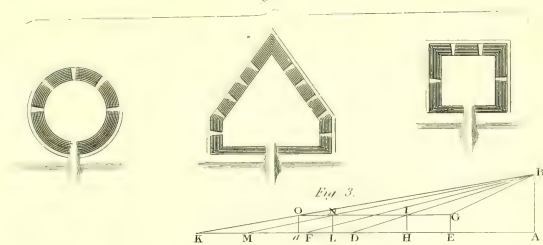


Fig. 1.

BATTERY.

Battery in Barbe or Barbet.

Fig. 3.

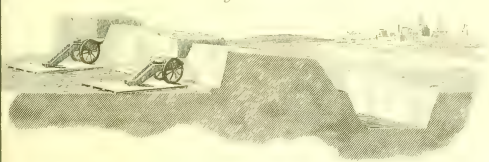


Fig. 2.

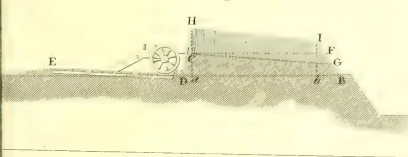
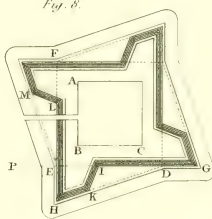


Fig. 8.



FORT.

Fig. 6.

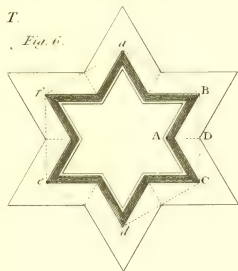


Fig. 9.

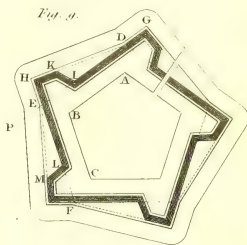


Fig. 4.

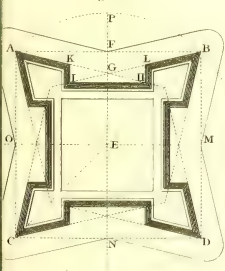


Fig. 5.

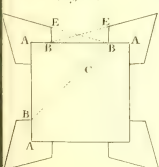


Fig. 7.

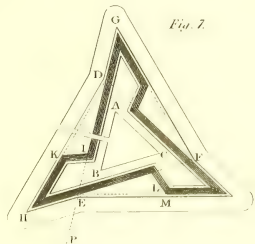


Fig. 10.

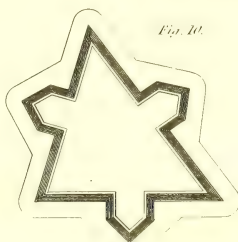


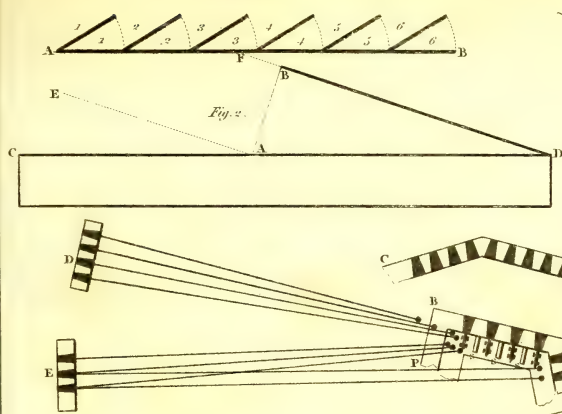
Fig. 1.
ECHÉLON.

Fig. 2.

Fig. 3.

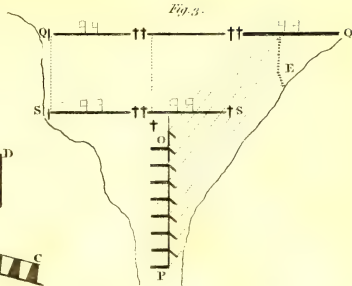


Fig. 4.

ENFILADE.

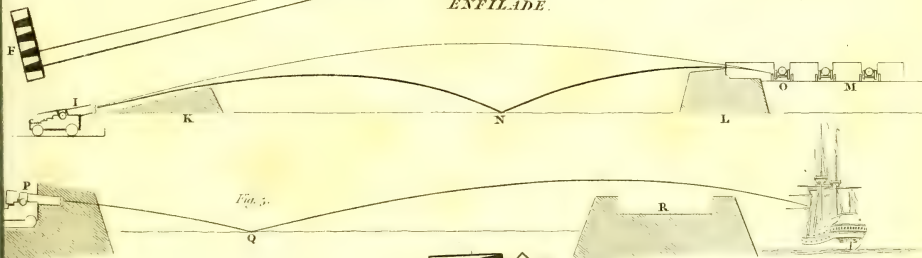


Fig. 5.



Fig. 6.

FIELD FORTIFICATIONS.

Fig. 9.



Fig. 8.



Fig. 10.

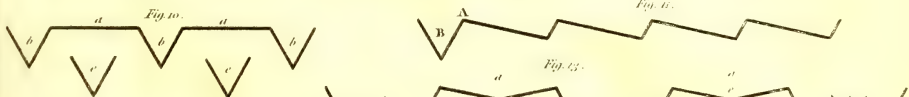


Fig. 11.

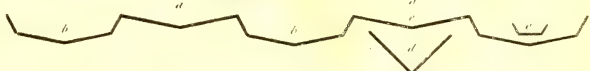


Fig. 12.

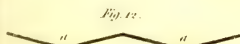
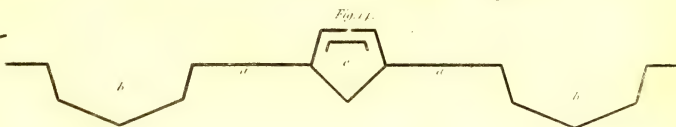


Fig. 13.



CONSTRUCTION.

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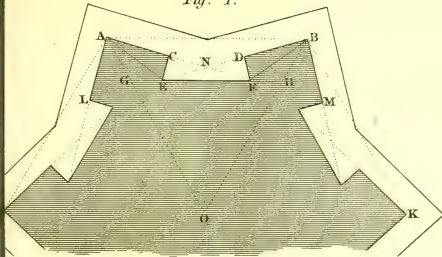


Fig. 2.

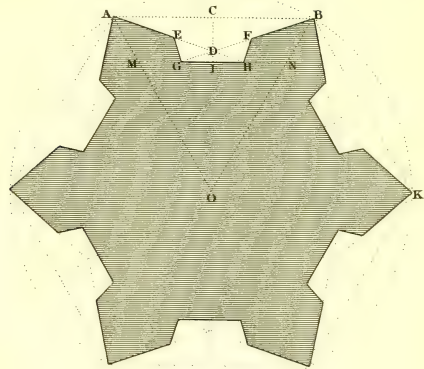


Fig. 3.

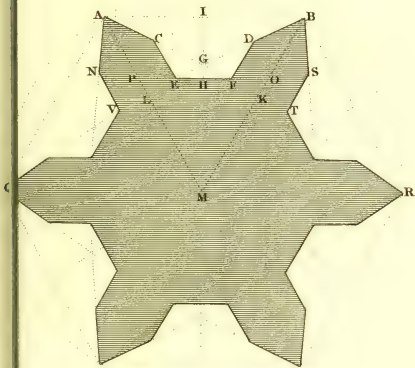


Fig. 4.

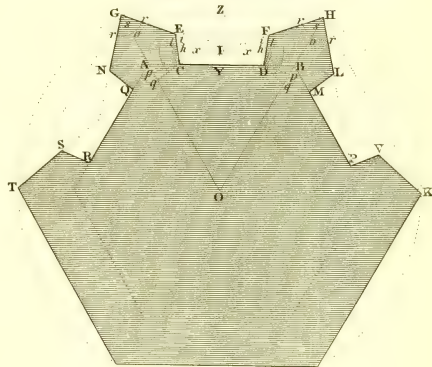


Fig. 5.

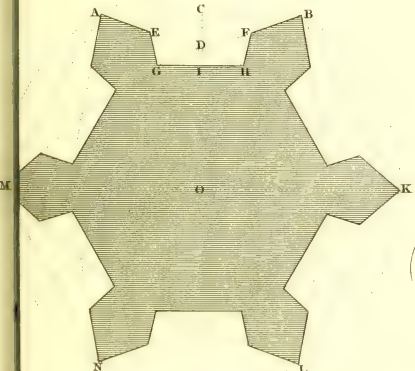
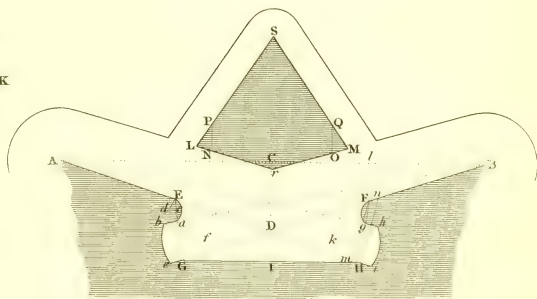


Fig. 6.



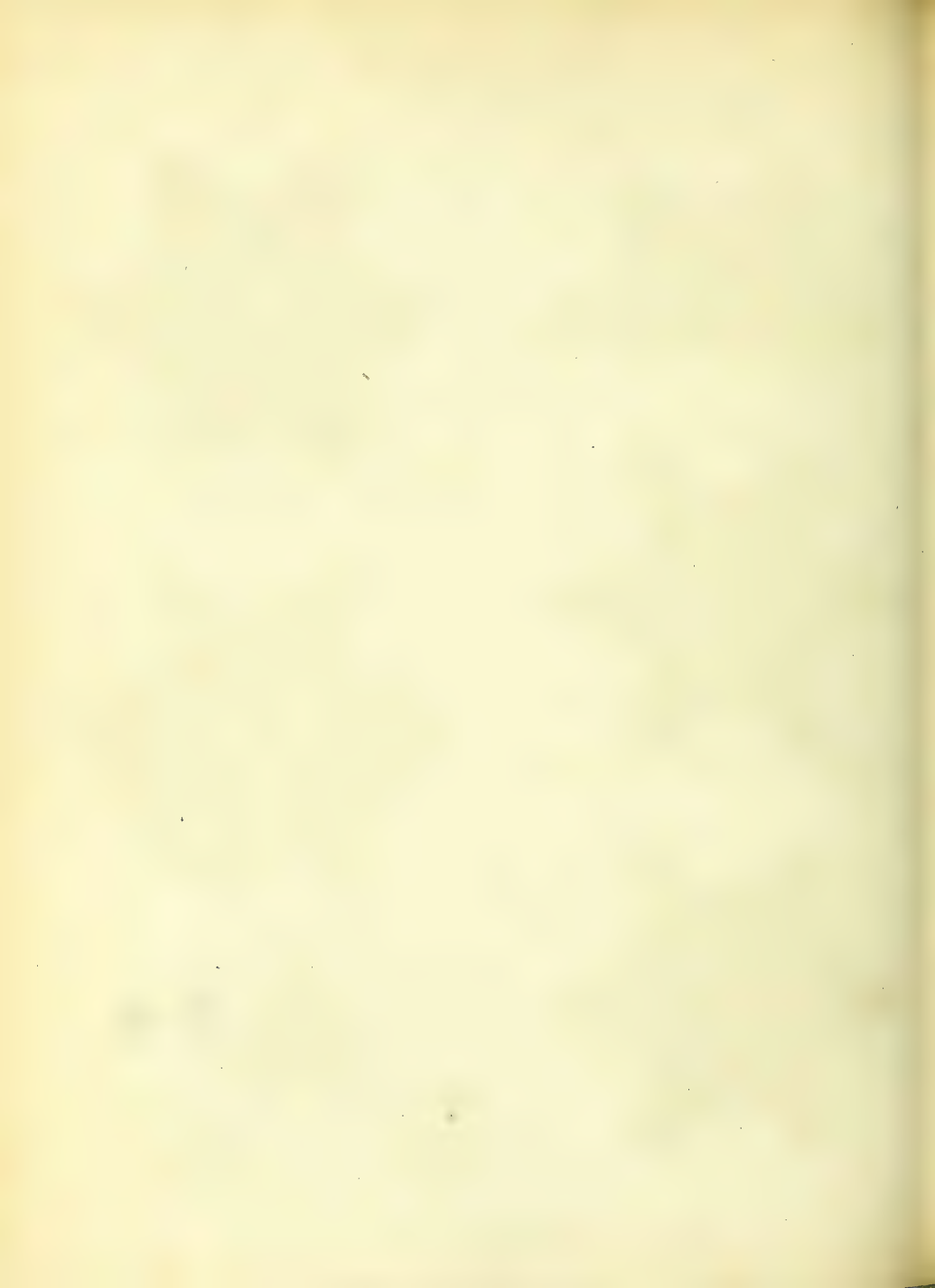


Fig. 7.

CONSTRUCTION.

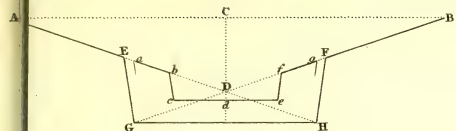


Fig. 8.

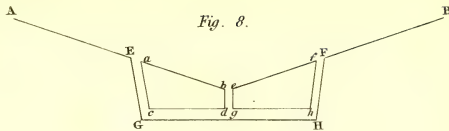


Fig. 9.

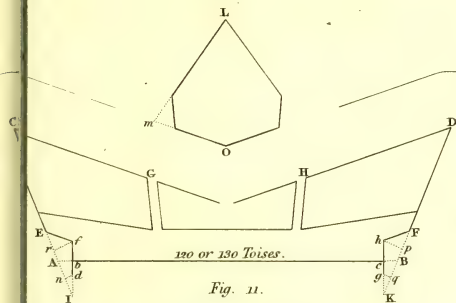


Fig. 11.

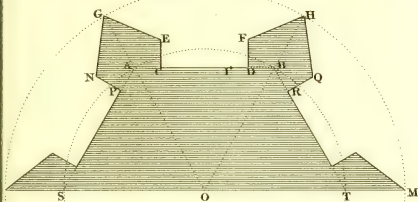


Fig. 10.

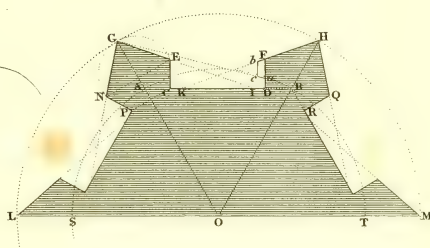


Fig. 12.

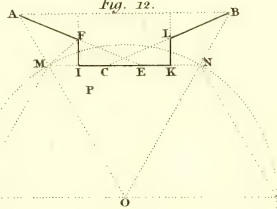


Fig. 13.

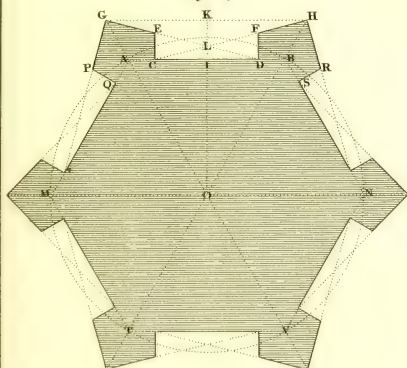
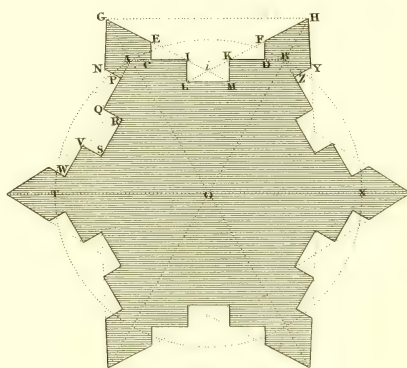
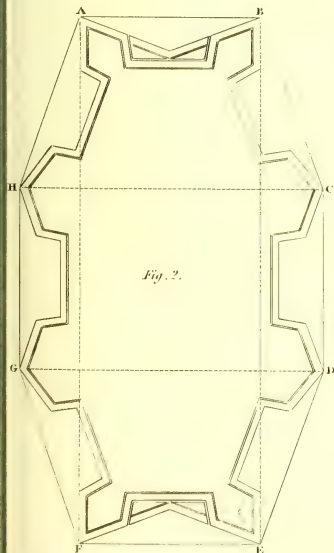


Fig. 14.

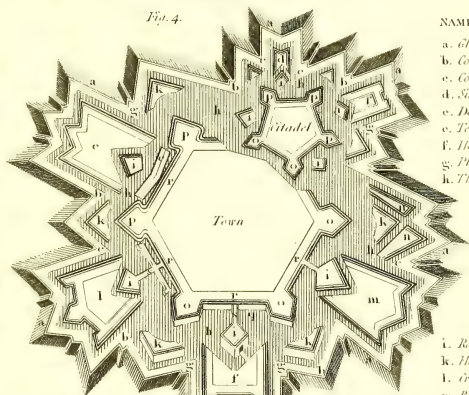






FORTIFIED PLACE

Fig. 4.

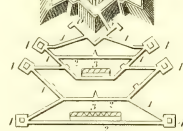


NAMES of the WORKS.

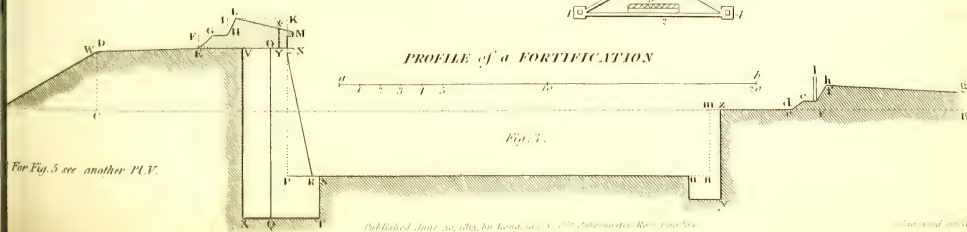
- a. Glacie or Dredging.
- b. Covert-way.
- c. Counterscarp.
- d. Single Tenaille.
- e. Double Tenaille.
- e. Tenaille in the Ditch.
- f. Horn Work.
- g. Places of arms.
- h. The Moat or Ditch.

NAMES of the APPROACHES.

- 1. Trenches of approach.
- 2. Lines of Communication.
- 3. Batteries.
- 4. Ports for Defence of the Trenches.
- 5. a Sup.
- 6. a Mine.



PROFILE of a FORTIFICATION



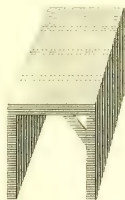
For Fig. 5 see another PL.V.





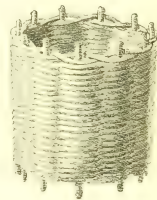
GALLERY.

Fig. 7.



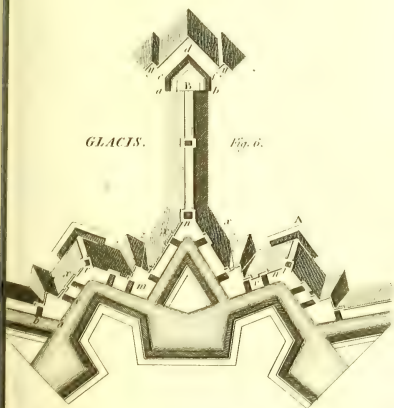
GABION.

Fig. 8.



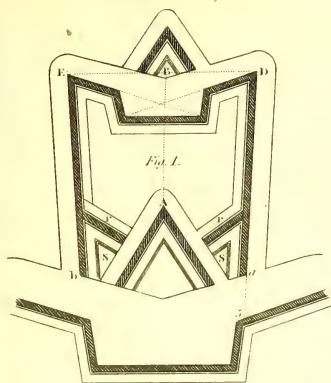
GLACIS.

Fig. 6.

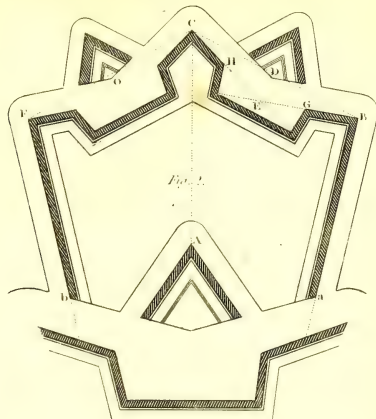


- A. B. Bastions.
C. Ravelin.
D. Line of Communication of the Attacks.
E. First Parallel.
F. Second Parallel.
G. Third Parallel.
H. The Approaches.
I. Places of Arms.
K. Square Redoubts to prevent Sallies.
L. Traverses in the third Parallel.
M. Batteries (a Cannon & Mortars).
N. Glacis.
O. Places of Arms in the covert way.
P. The Ditch.
Q. Bridge of Communication.
R. A River.
S. Rising Ground.

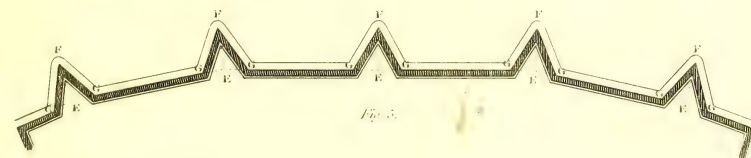
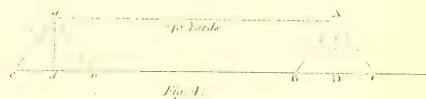
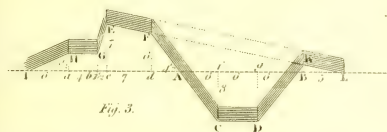
Horn-work.



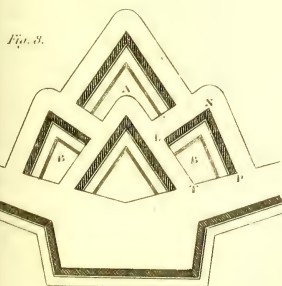
Double Horn-work or Crown-work.



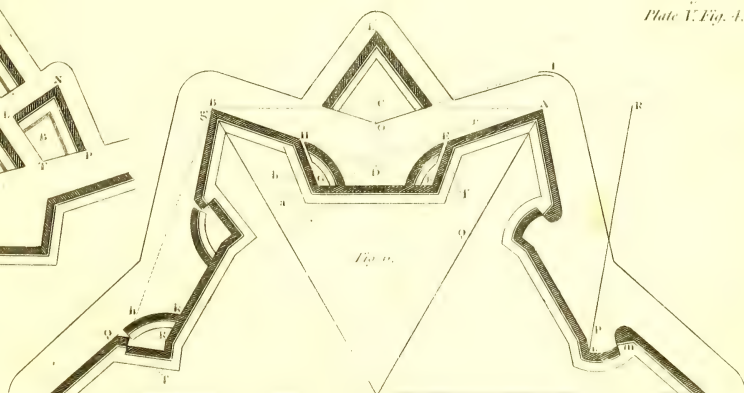
LINE.



Lunette.



*For Fig. 7, see.
Plate V Fig. 4.*



MANTELET

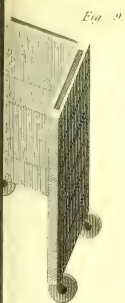


Fig. 10.

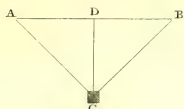
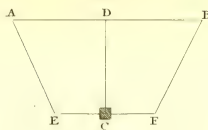


Fig. 11.



MINE

Fig. 12.

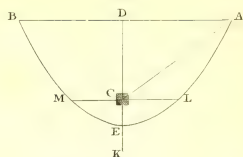


Fig. 13.

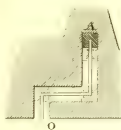


Fig. 14.

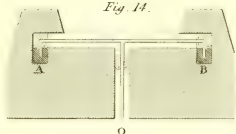


Fig. 15.



RAVELIN

Fig. 4.

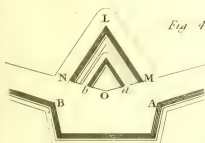


Fig. 7.



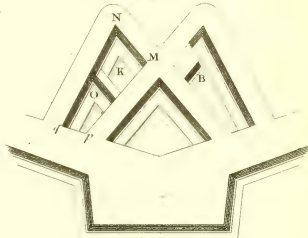
TENAILLE

Fig. 6.



TENAILLON

Fig. 9.



REDOUBT

Fig. 5.

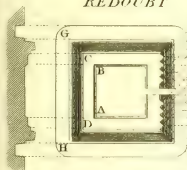


Fig. 8.



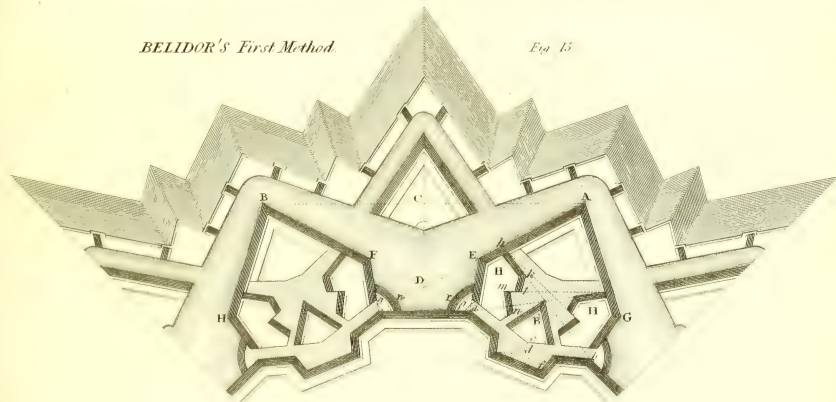
PLATE VII.

FORTIFICATION.

PLATE VIII.

BELIDOR'S First Method.

Fig. 15.

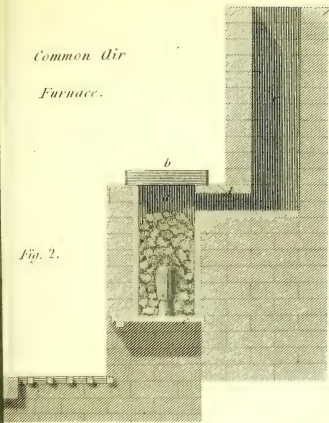






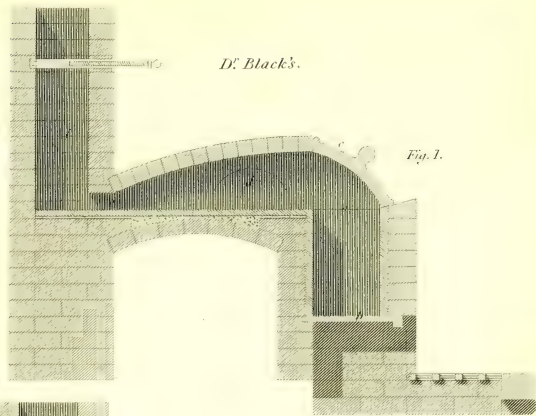
Common Air
Furnace.

Fig. 2.



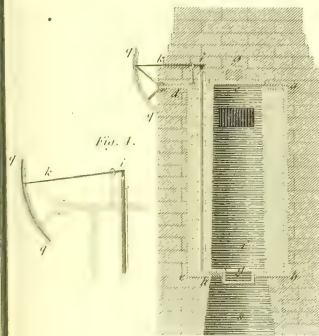
D. Black's.

Fig. 1.



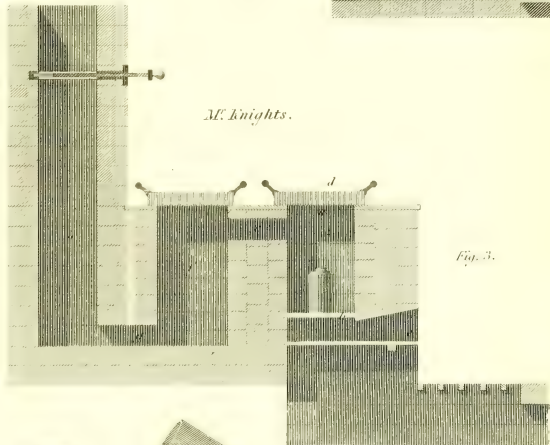
M. Mushets.

Fig. 4.



M. Knight's.

Fig. 3.



Portable by D. Black.

Fig. 11.

Fig. 6.

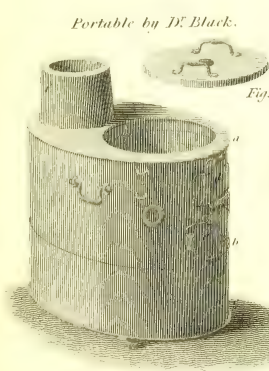


Fig. 10.

Fig. 3.



Fig. 7.

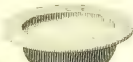
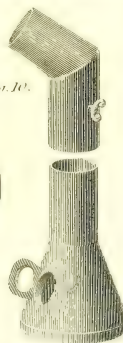
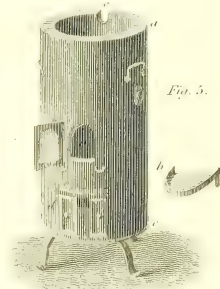


Fig. 9.



Knight's Portable.

Fig. 5.



FURNACES.

Furnaces used by Mr Mushet for his experiments on Iron & Steel.

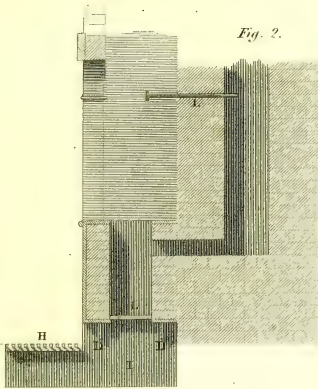


Fig. 2.

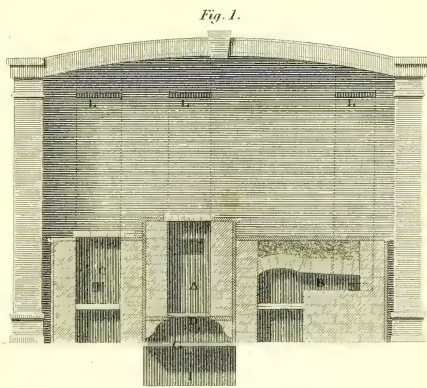


Fig. 1.

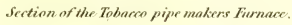


Fig. 4.

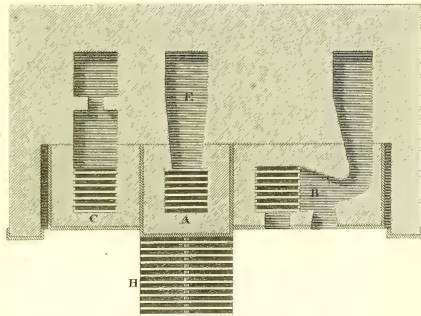
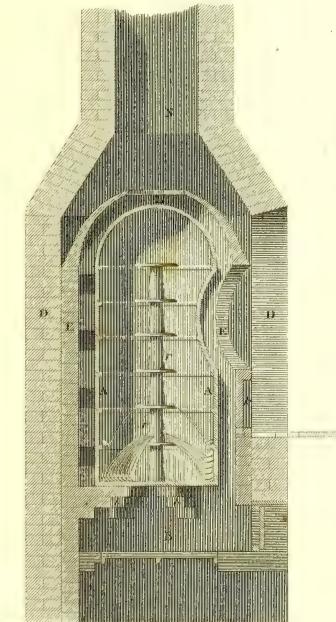
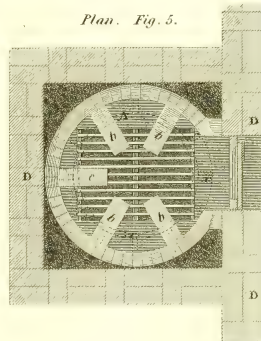


Fig. 3.



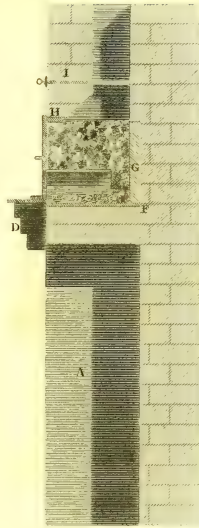
Plan. Fig. 5.



FURNACE.

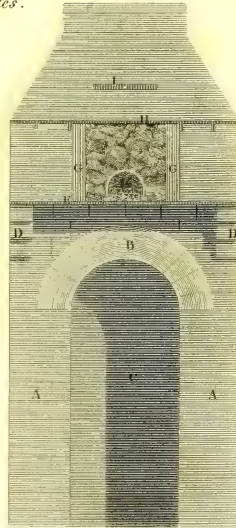
PLATE I.

Fig. 2.



Furnace for Enamelling Watch Dial Plates.

Fig. 1.



2 feet

Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.

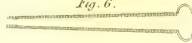


Fig. 7.

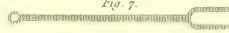


Fig. 8.



Fig. 9.



Fig. 11.

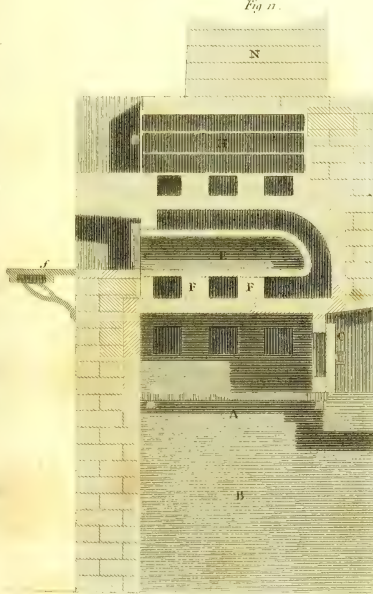
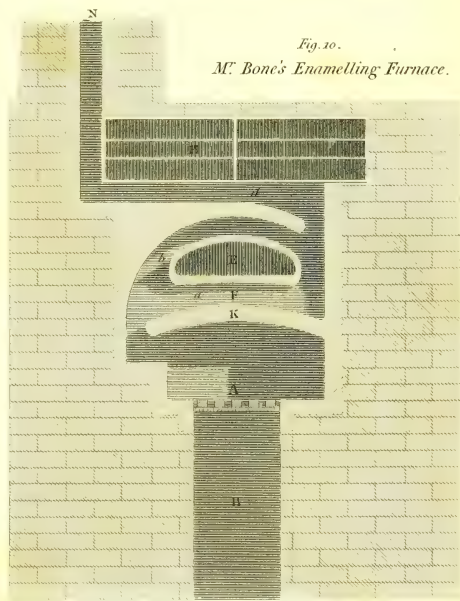


Fig. 10.

M. Bone's Enamelling Furnace.



Scale of Feet.

10 9 8 7 6 5 4 3 2 1



BARK-BEDS & PITS.

PLATE I.

Fig. 1.

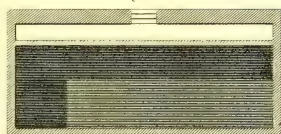


Fig. 2. Bark Pit for succession pine apple plants & other tender Exotics.

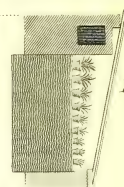
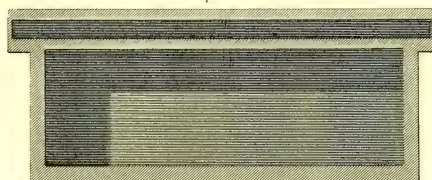
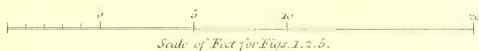


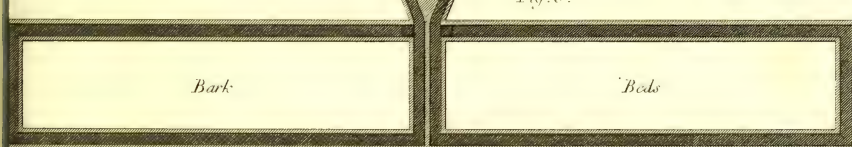
Fig. 3.

Plan

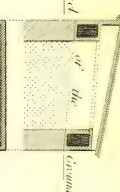


Plan

Fig. 3.

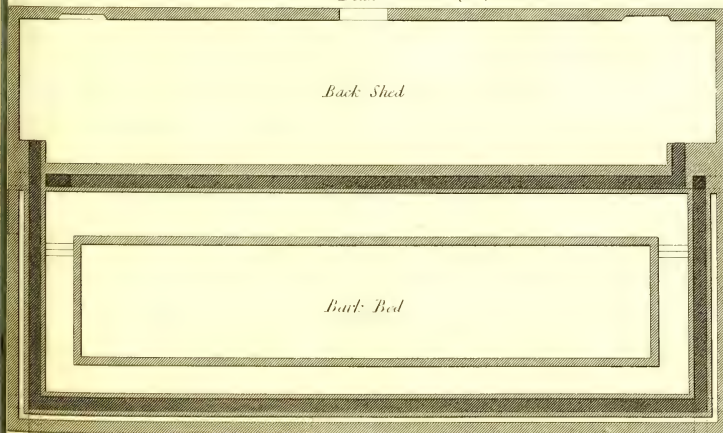


Section



Plan

Fig. 4.



Section

Section

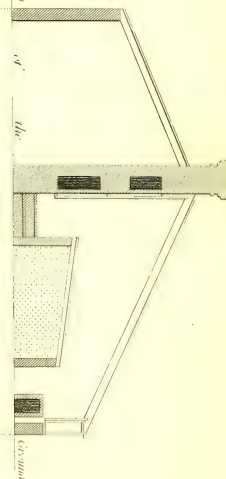


Fig. 6.

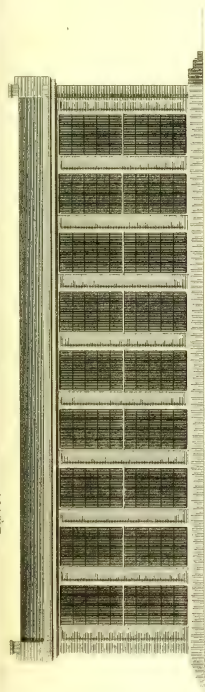


Fig. 4.

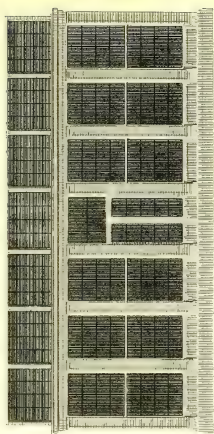


Fig. 5.

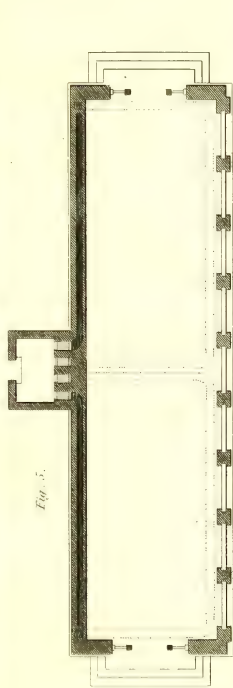


Fig. 1.

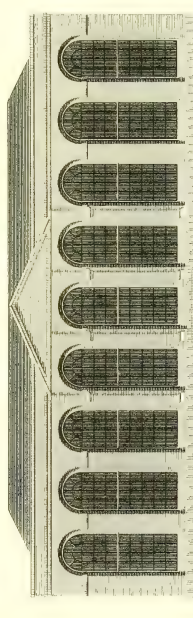


Fig. 3.

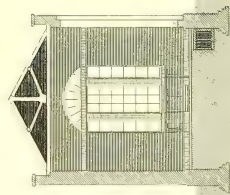
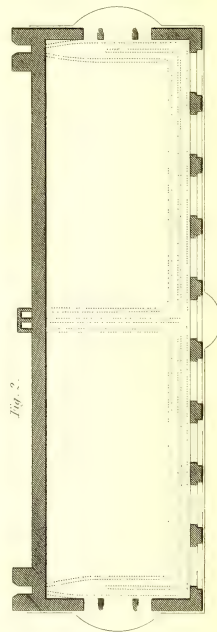


Fig. 2.



GARDENING .

PLATE III.

HOT - HOUSE.

Fig. 1. Elevation .



Fig. 2. Plan .

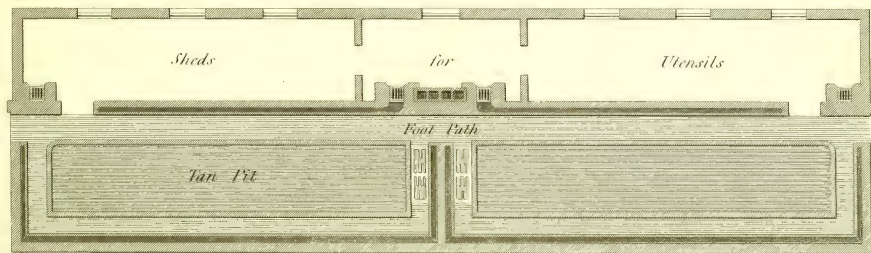


Fig. 4.

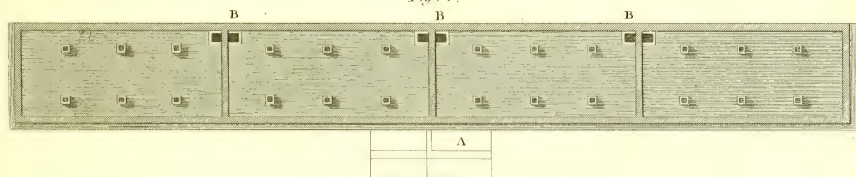


Fig. 5.

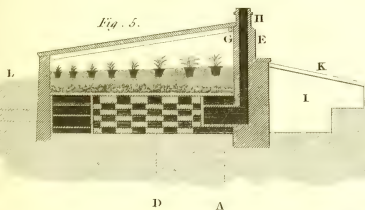


Fig. 3.

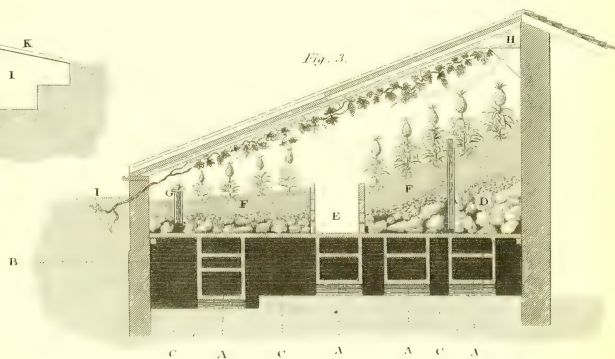


Fig. 1.
DISTANCE

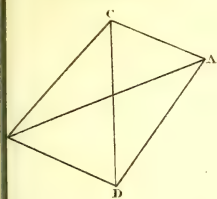


Fig. 2.

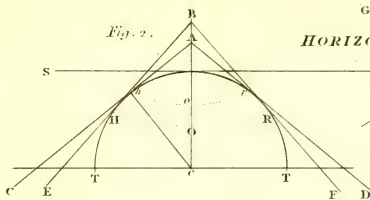


Fig. 3.

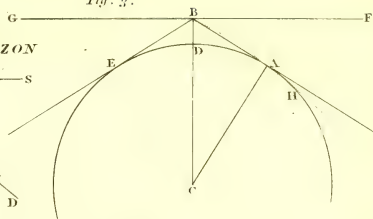


Fig. 5.

MAP

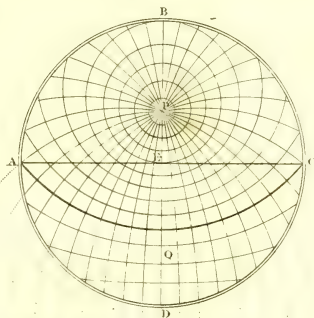
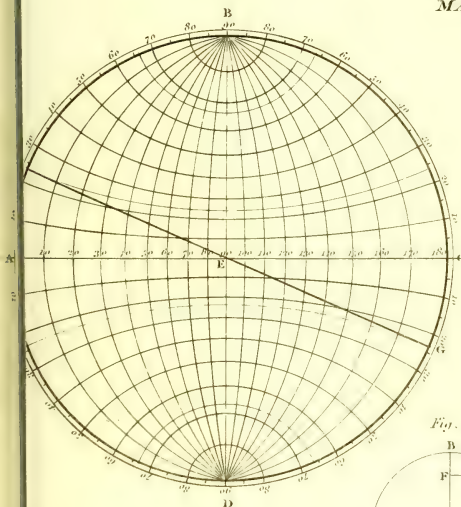


Fig. 7.

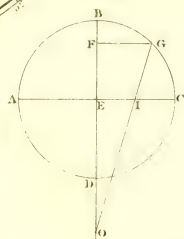


Fig. 1.

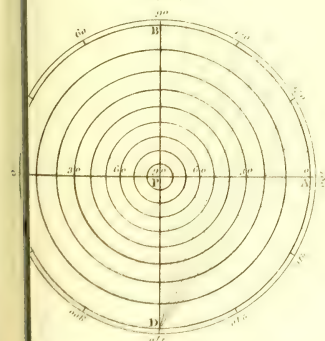
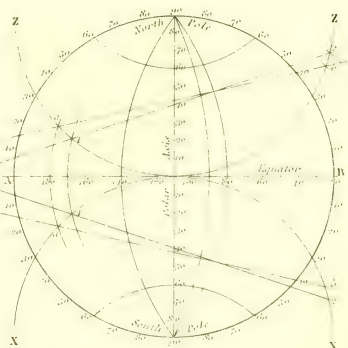
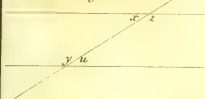


Fig. 8.



ALTERNATE ANGLES.

Fig. 1.



ALTITUDE.

Fig. 2.

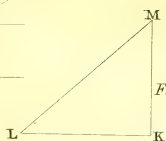


Fig. 3.

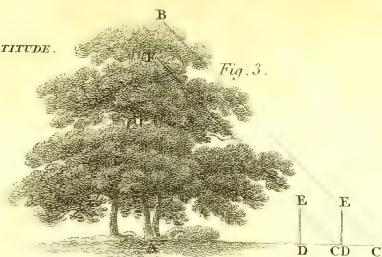


Fig. 4.

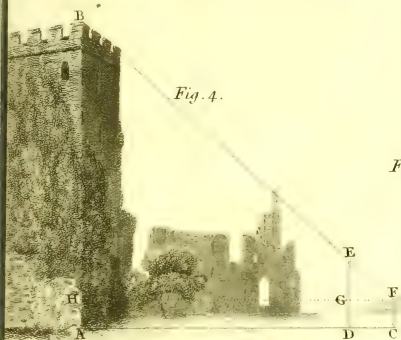


Fig. 5.



Fig. 6.

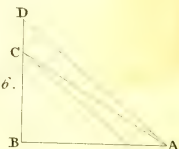


Fig. 7.



Fig. 10.

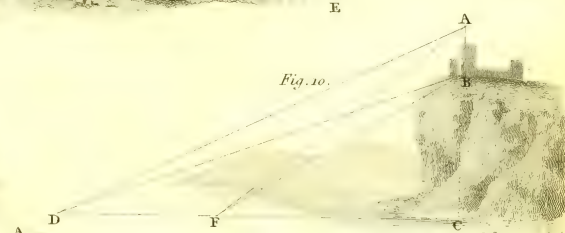


Fig. 8.

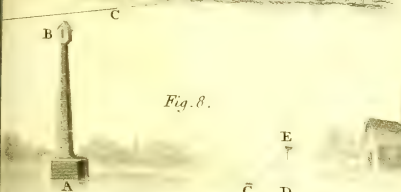


Fig. 9.

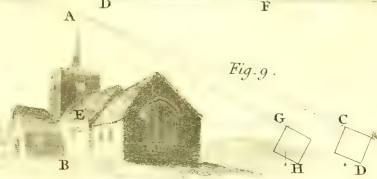


Fig. 13.

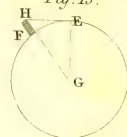
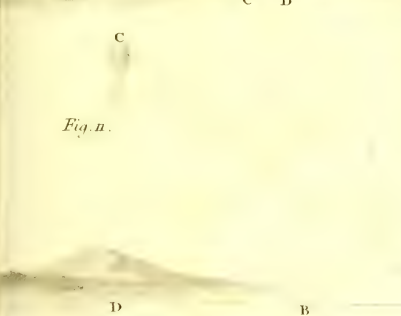


Fig. 12.



ALTITUDE AND DISTANCE.

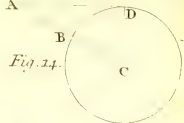
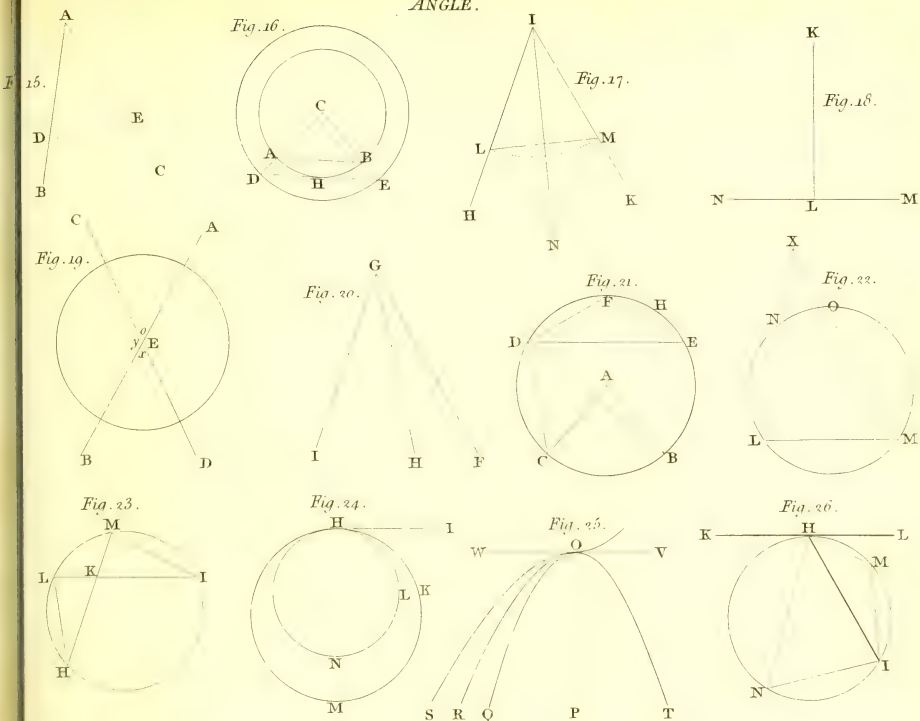
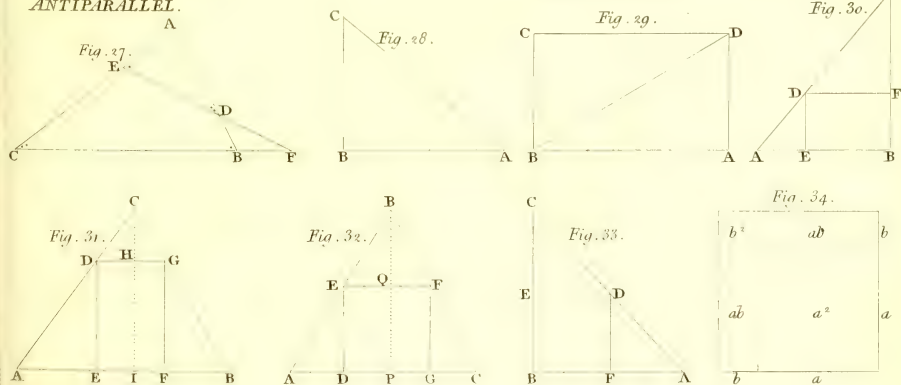


Fig. 14.

ANGLE.

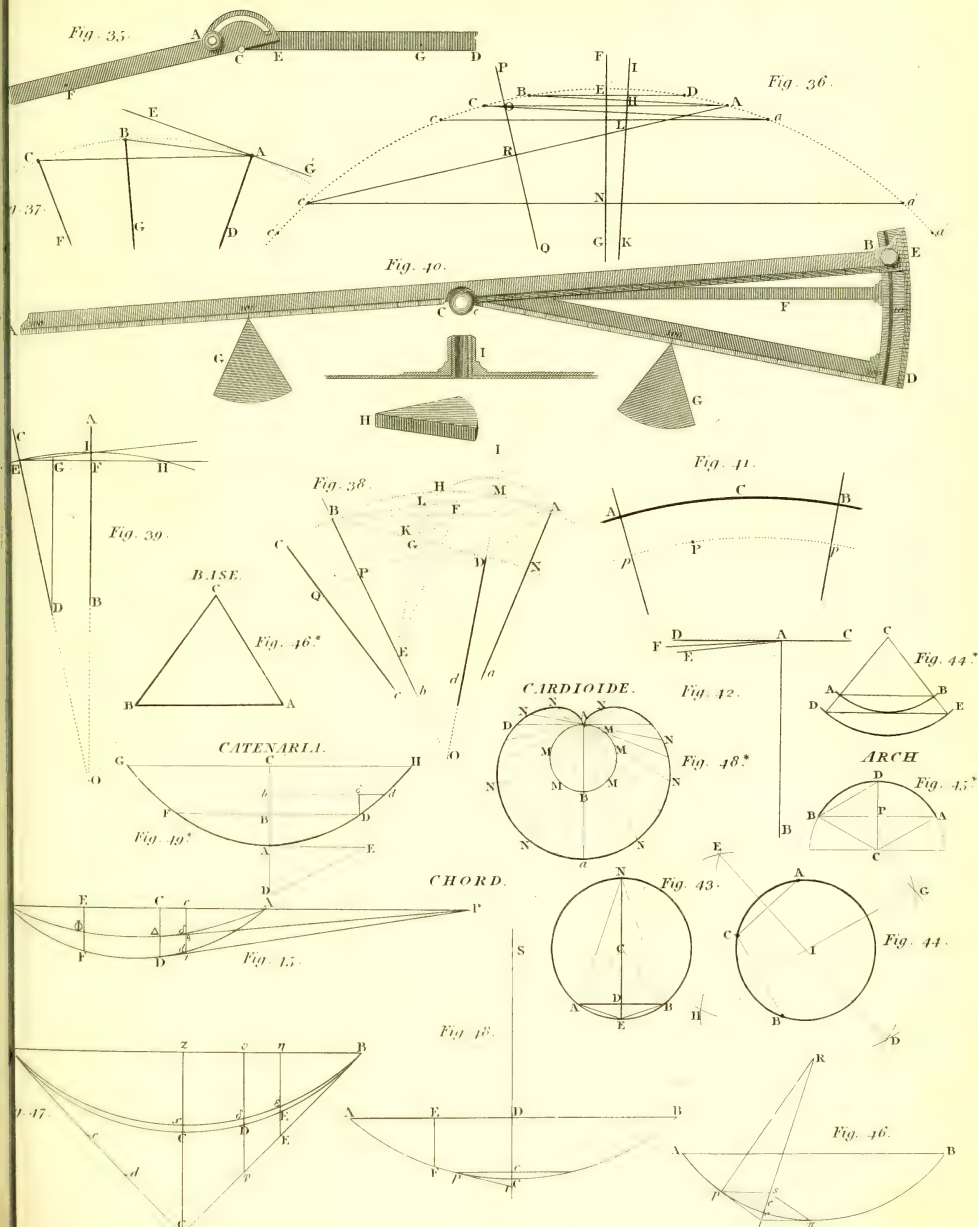


ANTIPARALLEL.



GEOMETRY.

BEVEL &c.



CIRCLE. Fig. 50.

Fig. 49.

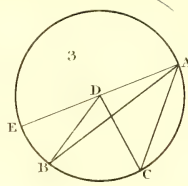
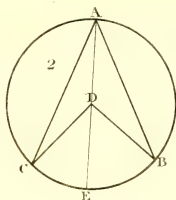
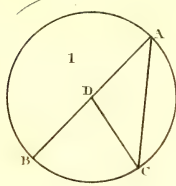
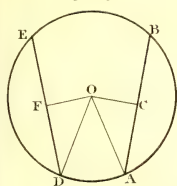


Fig. 51.

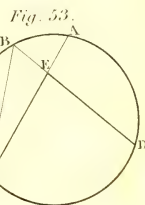
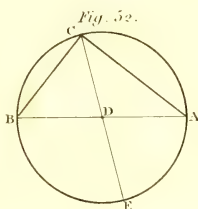
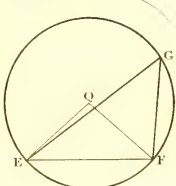
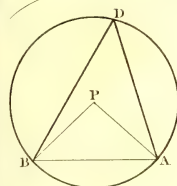


Fig. 53.

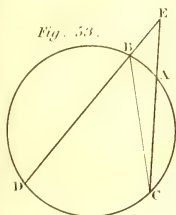


Fig. 54.

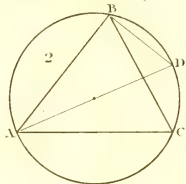
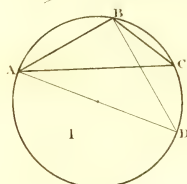


Fig. 55.

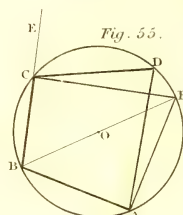


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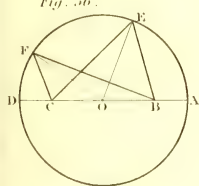


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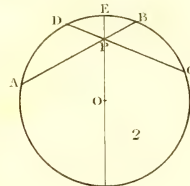
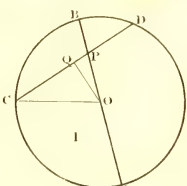


Fig. 58.

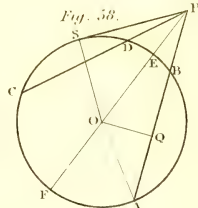


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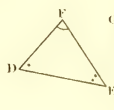
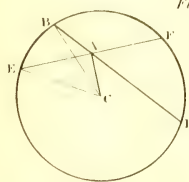


Fig. 60.

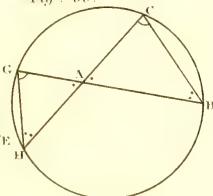
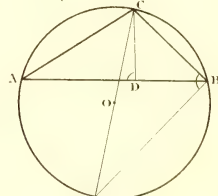


Fig. 61.



GEOMETRY.

CIRCLE.

Fig. 62.

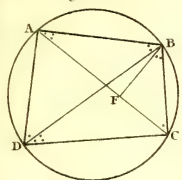


Fig. 63.

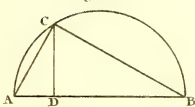


Fig. 64.

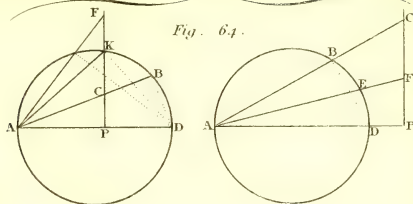


Fig. 65.

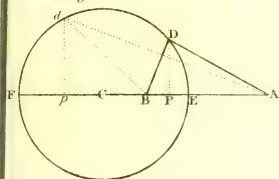


Fig. 66.

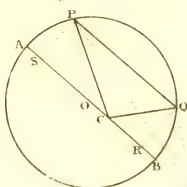


Fig. 67.

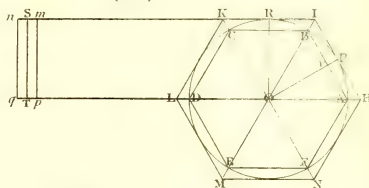


Fig. 68.

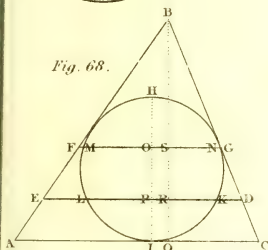


Fig. 69.

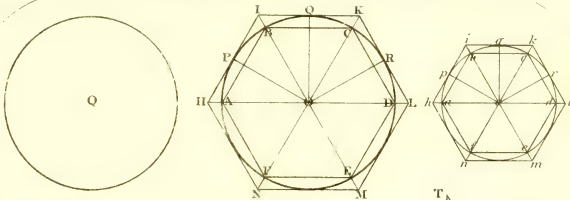


Fig. 70.

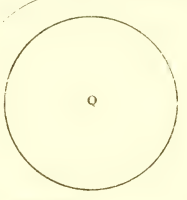


Fig. 71.

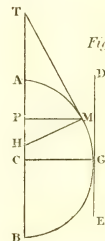
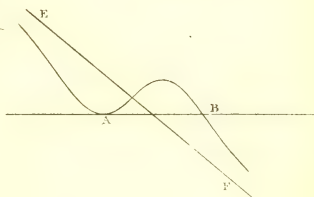
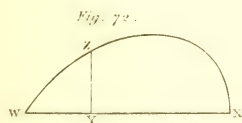
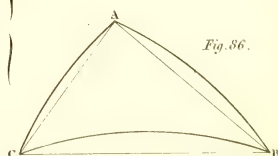
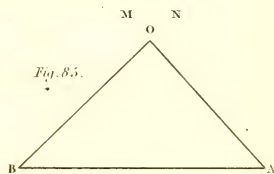
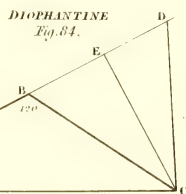
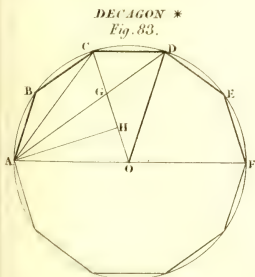
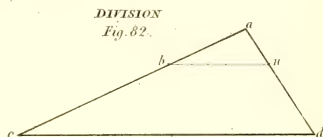
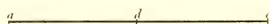
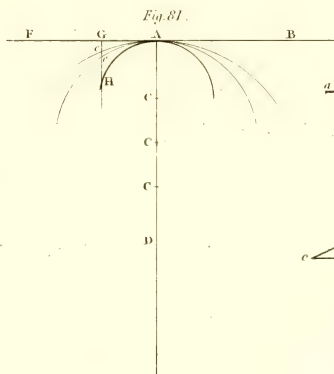
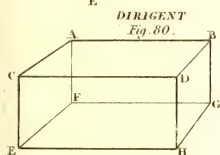
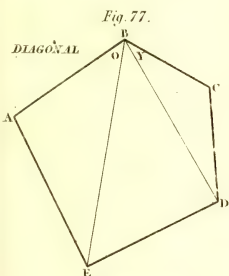
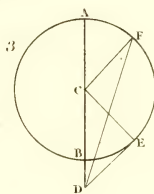
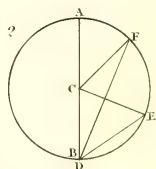
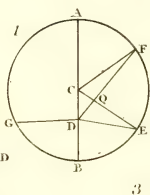
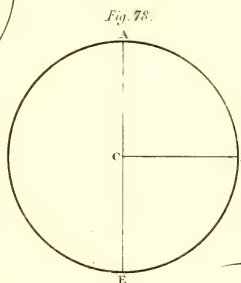
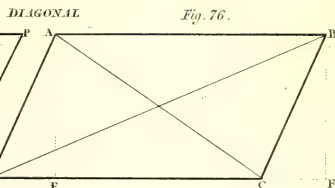
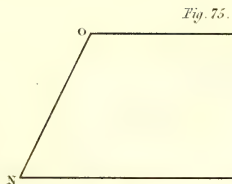
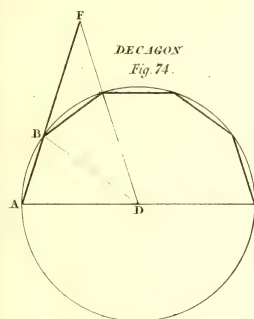


Fig. 72.



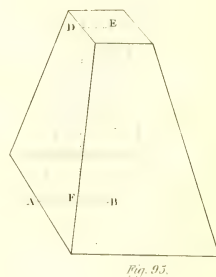
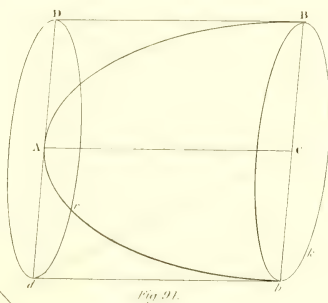
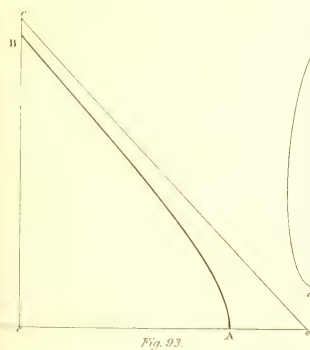
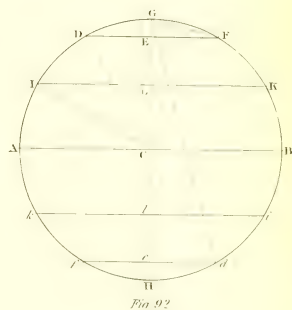
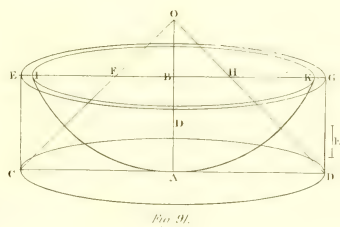
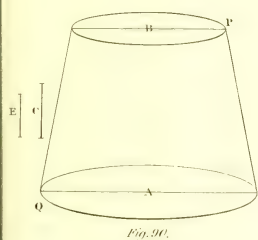
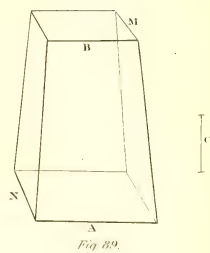
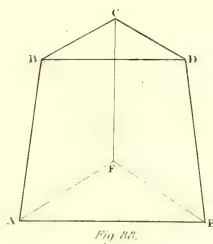
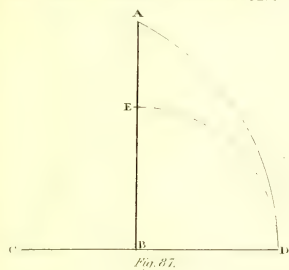


* *For DODECAGON see HEXAGON*

DISTANCE

EXTREME & MEAN PROPORTION.

FRUSTUM.



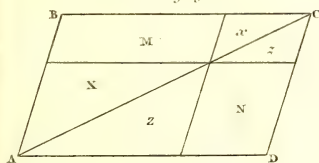


GEOMETRY.

PLATE VIII.

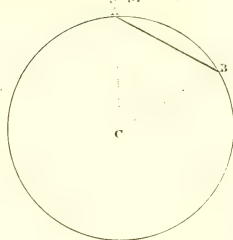
GNOMON

Fig. 96.



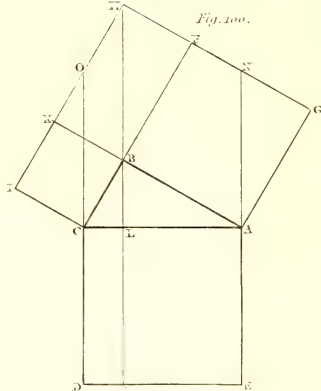
HEXAGON

Fig. 97.



HYPOTHENUSE

Fig. 100.



HONEY Comb

Feb. 98.

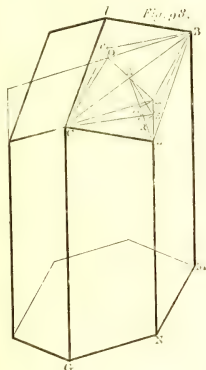
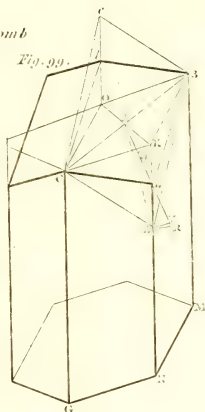
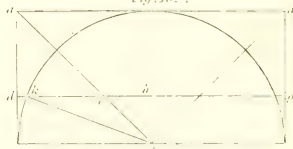


Fig. 99.

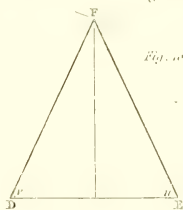


INDIVISIBLES

Fig. 102.



ISOSCELES Triangle

$$K^{\alpha\beta}U_{\alpha}U_{\beta} = -\alpha^2\beta^2.$$


INCLINATION of Planes

Fig. 201.

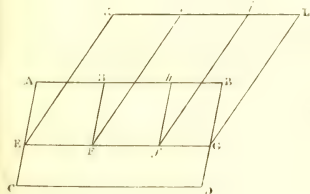
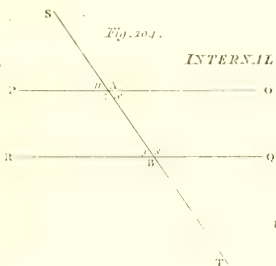


Fig. 204.

INTERNAL Angle

Fig. 103.



LINE.

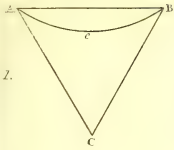


Fig. 2.

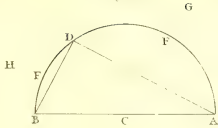


Fig. 3.

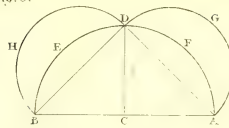


Fig. 3.

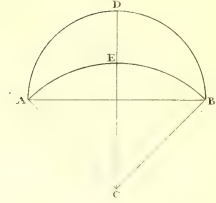


Fig. 4.

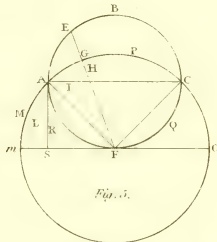
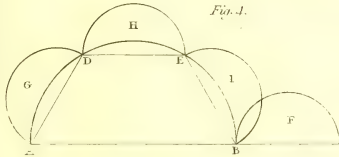


Fig. 5.

MULTIPLICATION.

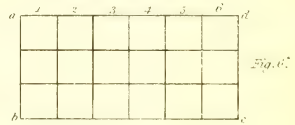


Fig. 6.

MULTIPLICATION.

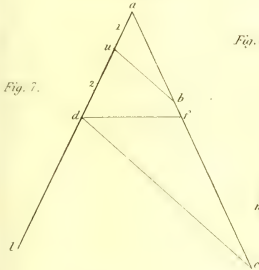
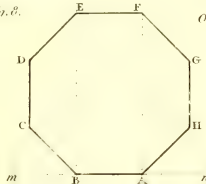


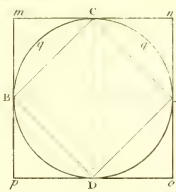
Fig. 7.

Fig. 8.



OCTAGON.

Fig. 9.



PARALLEL.

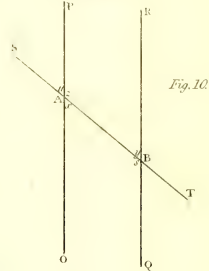


Fig. 10.

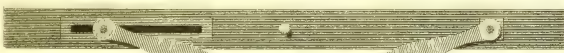
PARALLEL RULER.



Fig. 11.



Fig. 12.



PARALLELEPIPED.



Fig. 13.

PARALLELOGRAM.

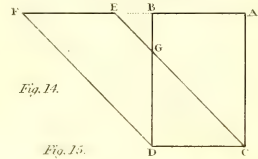
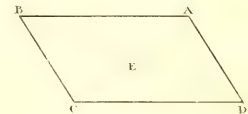


Fig. 14.

Fig. 15.



PELECOIDES

Fig. 17.

PENTAGON

Fig. 18.

PERPENDICULAR

Fig. 4.

POLYGON

Fig. 6.

POLYGONOMETRY

Fig. 7.

Fig. 8.

PORISM

Fig. 12.

PRISM

Fig. 15.

Geometry of POSITION

Fig. 14.

Fig. 13.

Fig. 16.

PROPORTIONAL

Fig. 17.

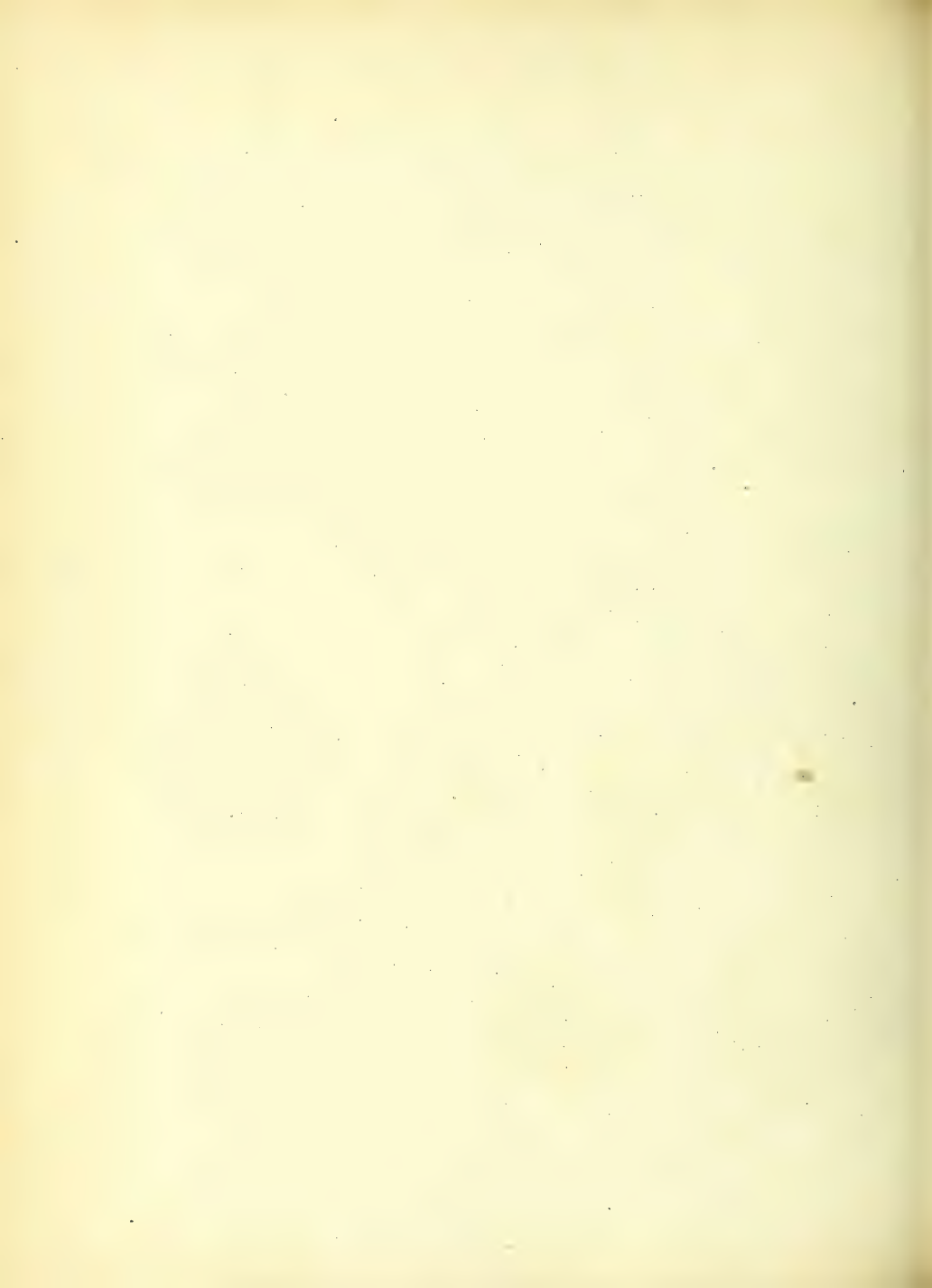


Fig. 1.
QUALITY

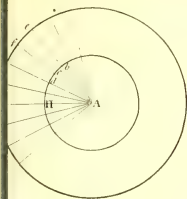
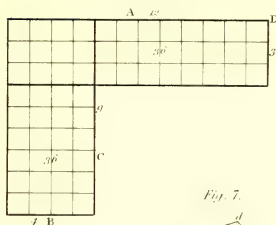


Fig. 2.
RECIPROCAL Figures.



RECTANGLE

Fig. 3.

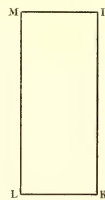


Fig. 4.

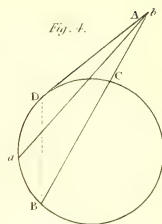


Fig. 5.

REDUCTION

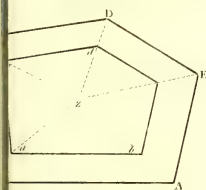


Fig. 6.

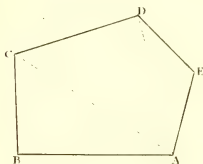


Fig. 7.

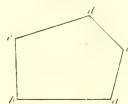


Fig. 8.

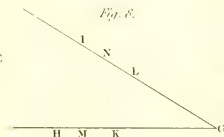
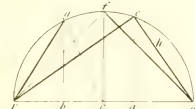


Fig. 9.

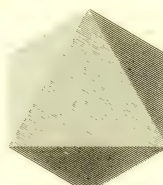
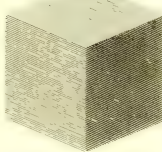
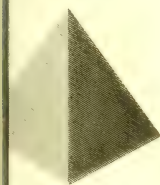
REGULAR Body.



TETRAHEDRON

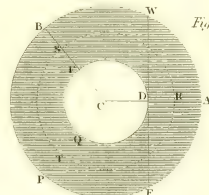
CUBE

OCTAHEDRON



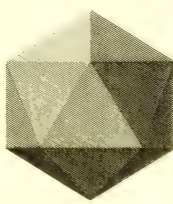
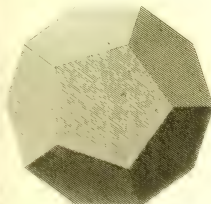
RING

Fig. 12.



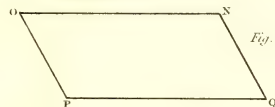
DODECAHEDRON

ICOSAHEDRON



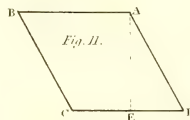
RHOMBOLDES

Fig. 10.



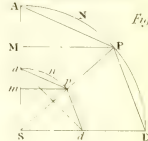
RHOMBUS

Fig. 11.



SIMILAR Curves.

Fig. 13.





SCALE

Fig. 2.

Fig. 1.

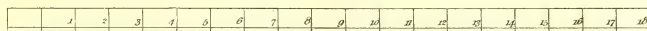


Fig. 7.



SECTOR

Fig. 5.

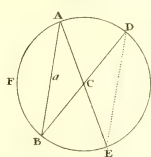


Fig. 3.



SECANT

Fig. 6.

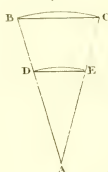


Fig. 4.

Fig. 9.

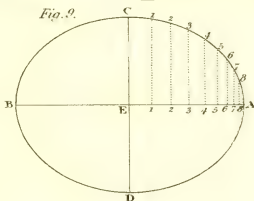


Fig. 11.

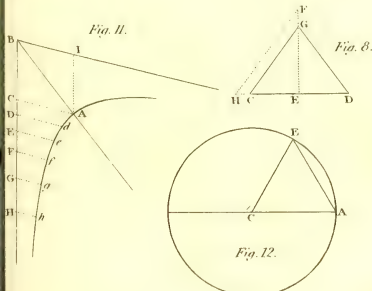


Fig. 8.



Fig. 12.

SEGMENT

Fig. 13.

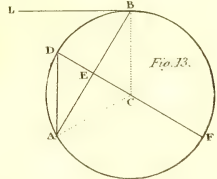
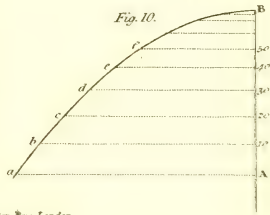
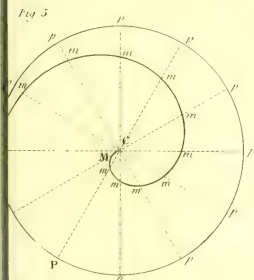
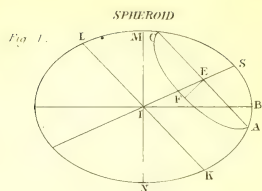
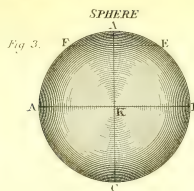
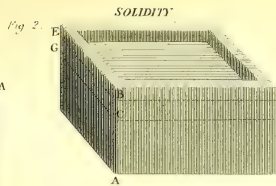
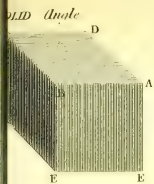


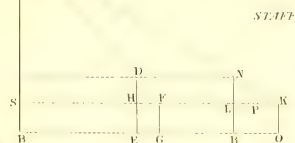
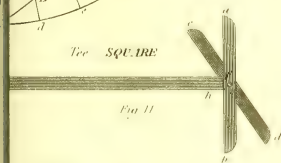
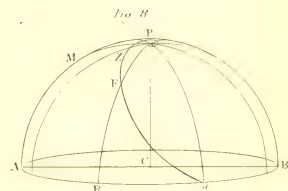
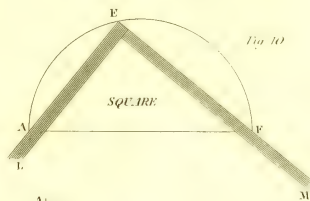
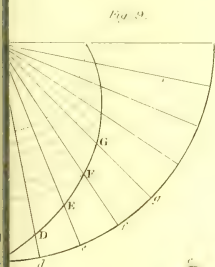
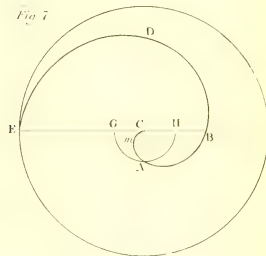
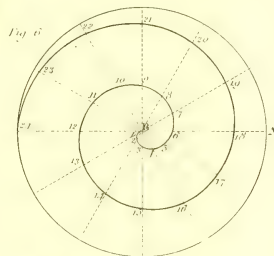
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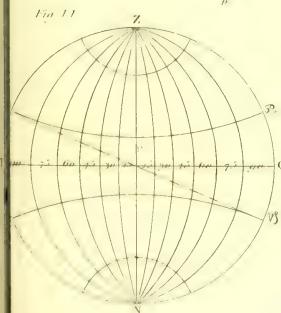




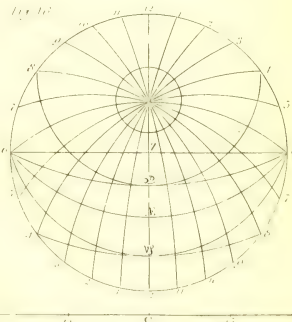
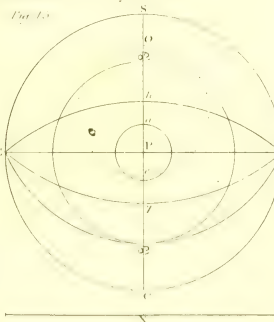
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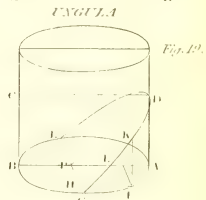
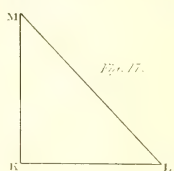
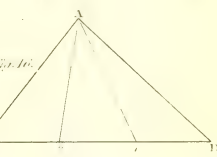
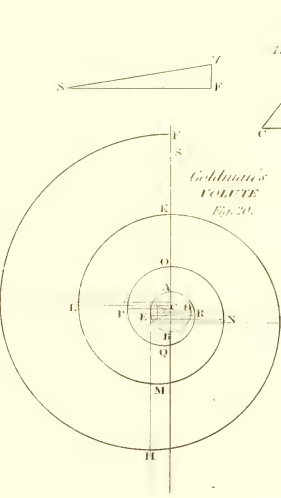
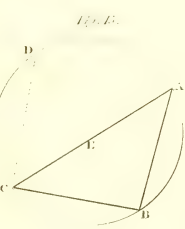
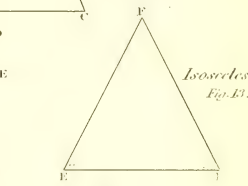
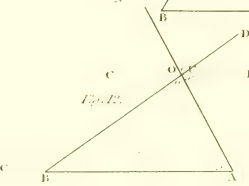
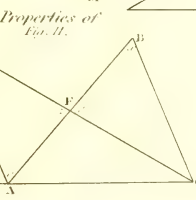
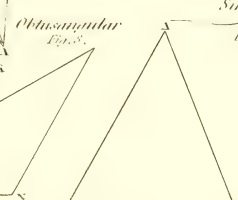
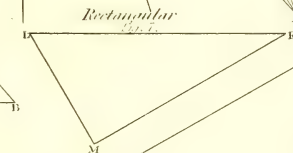
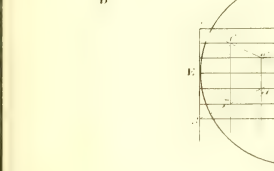
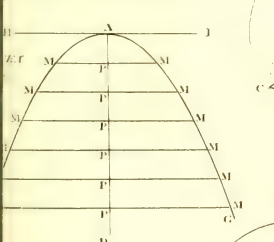
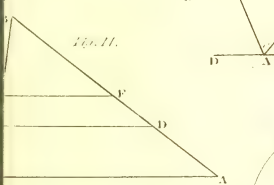
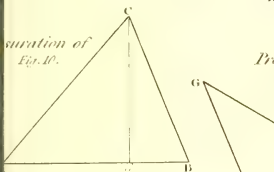
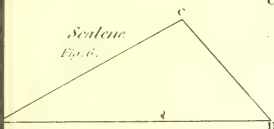
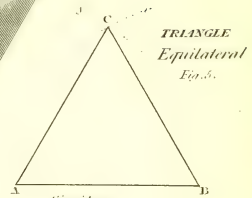
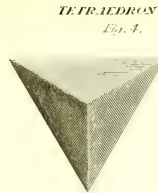
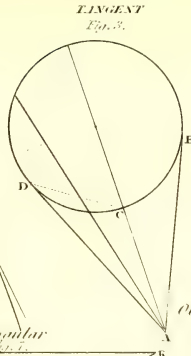
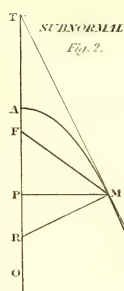
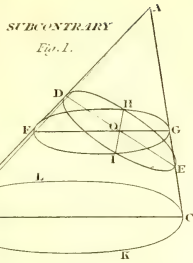
STERE



STEREOGRAPHIC Projection



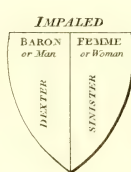
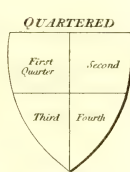
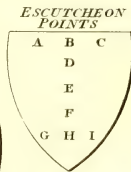
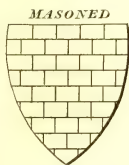
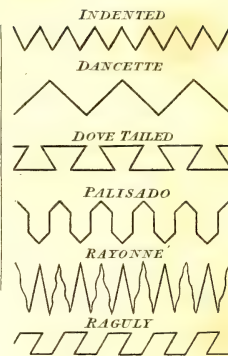
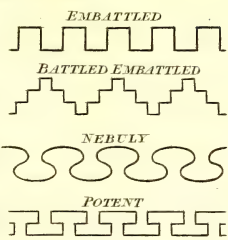
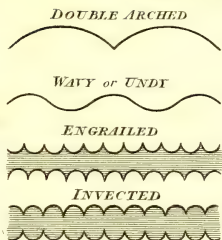
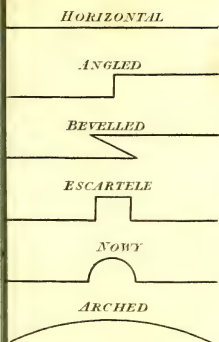






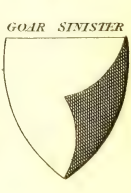
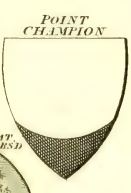
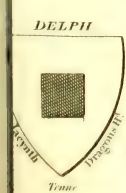
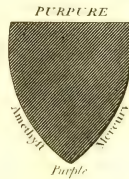
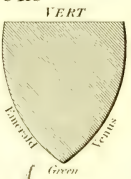
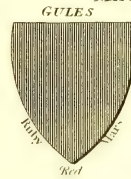
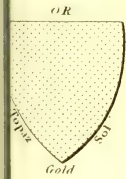
HERALDRY.

PARTITION LINES



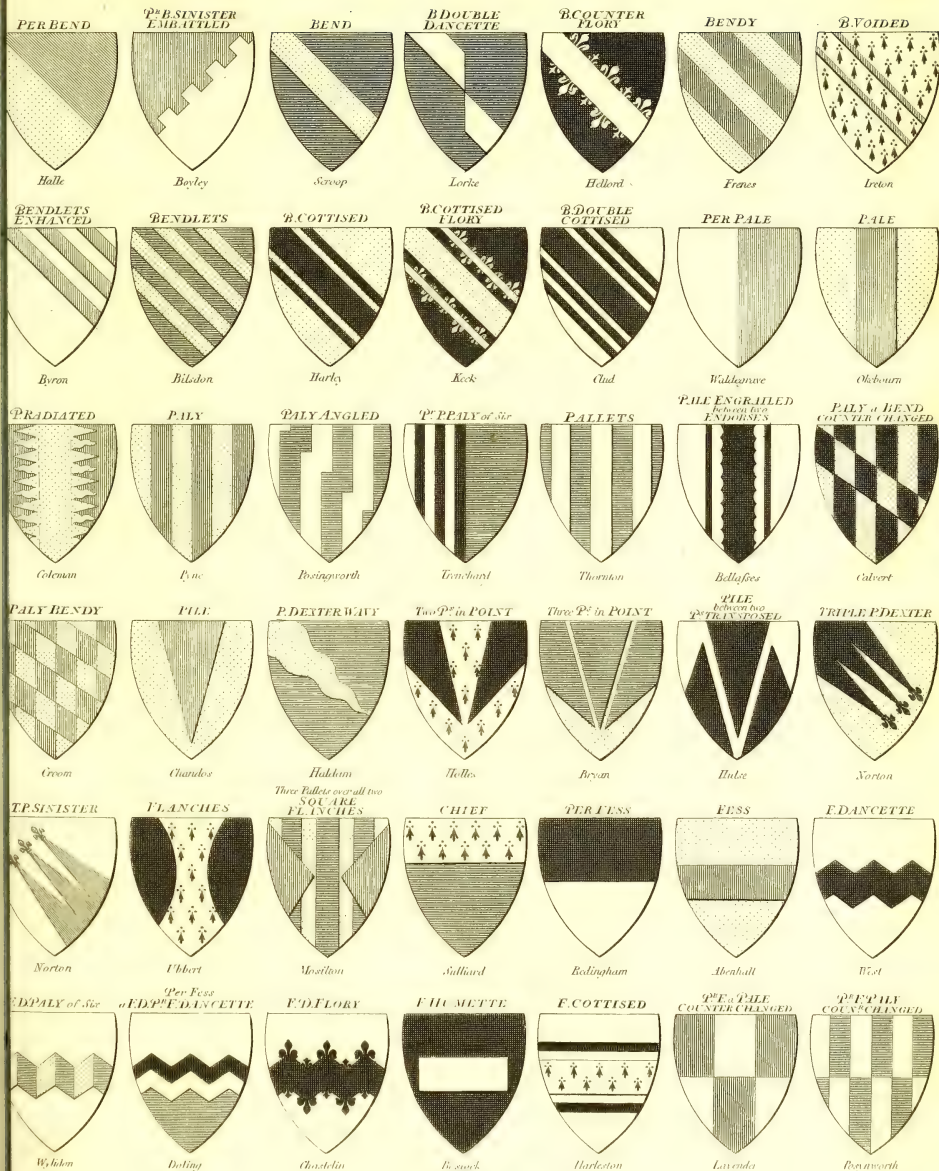
ROUNDLES

METALS and COLOURS





HERALDRY.





FESS CORDED



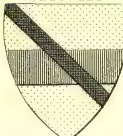
Carmichael

Pth F a BEND wavy
COUNTING CHANGED



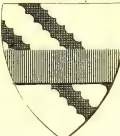
Wickham

F surmounted by
a BENDLET



Dolven

2 BEND ² ENGRAILED
surmounted by a F



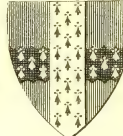
Jackall

Pth PALE a FESS
COUNTING CHANGED



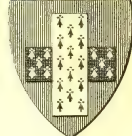
Fitz Richard

F ENGRAILED
surmounted by a FILE



Dyrcin

F HEMETTE
surmounted by
a F COTTED



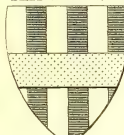
Spanne

PALY of six a FESS
COUNTING CHANGED



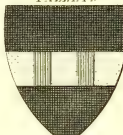
Wickham

PALY of six a F



Lyp

F chequy with 2
FILETS



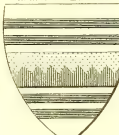
Moline

FESS Pth F ENGRAILED
COTTED COUNTING CHANGED



Hoddy

Fth F ENGRAILED
double COTTED



Chiche

FILE surmounted
by a F ENGRAILED



Linton

FESS & 2 FILES
in CHIEF wavy



Linton

PALY of six a F
INCHES & FILE



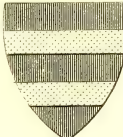
Bliss

F a CHIEF BENDY



Despigne

Two BARS



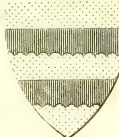
Hasson

2 Bth ENGRAILED



Garrell

2 Bth ENGRAILED
in Bth



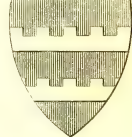
Chiche

2 Bth ENGRAILED
COUNTING CHANGED



Went

2 Bth ENGRAILED



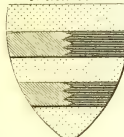
Chiche

2 Bth BENDY
or both



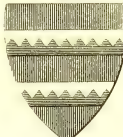
Jakey

2 Bth PALE
INDENTED



Stanton

2 Bth FESS
INDENTED



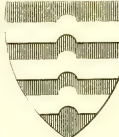
Fenn

2 Bth ENGRAILED
with a Fess & Dimples
& Chief engrailed



Starkins

2 Bth ENGRAILED



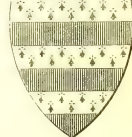
Blackell

2 Bth COTTED



Wingate

2 Bth ENGRAILED



Went

2 Bth COTTED



Barbury

2 Bth between two
COTTED FILES in Bth



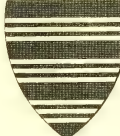
Horswood

2 Bth ENGRAILED



Ridgeway

2 Bth ENGRAILED



Tibbitt

BARRY of six
surmounted by a BEND



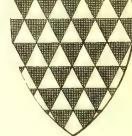
Lyncham

2 Bth ENGRAILED
COUNTING CHANGED



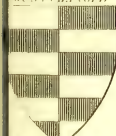
Saville

BARRY of six and a
LOZENGE CHANGED



Gill

BARRY of six
COUNTING CHANGED



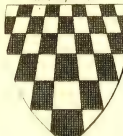
Dye

Pth PALE the SIXth
BARRY of six



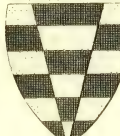
Campden

BARRY Paly
in Despigne



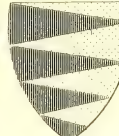
Despigne

BARRY of six a FILE
COUNTING CHANGED



Lyncham

2 Bth ENGRAILED



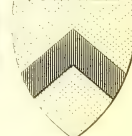
Bygham

PER CHEVRON



Lane

CHEVRON



Blackell



HERALDRY.

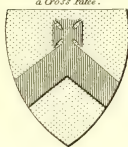
CHEVRON
VOIDED.

Dudley

C. FIMBRATED.



Staley

C. the Point ending with
a Cross Pale.

Heldbrook

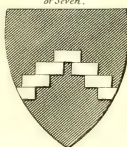
C. with the Ring & Lozenge
or an Archer.

Walker

C. ENARCHED.



Bolbeane

C. BILLET
or seven.

Grice

C. TRIPARTED.



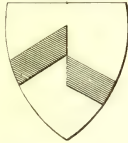
Smithley

C COUPED.



Jones

C REMOVED.



Shalton

C. ROMPEE.



Jorton

C FRACTED.



Winterall

C COUCHED SINIS².

Brighton

CHEVRON of 6.



Grimeby

CHEVRONELS.



Fetysplace

Two CHEVRONELS
COUNTERPOINTED.

Traver

CHIEF FRETTED
with one reversed.

Wedgward

Two C² COUCHED
Dexter & Sinister.

Gash master

CHEVRONELS
REVERSED.

Newton

3 CHEV² FRETTED
in Base.

Brakenbury

CHEVRON and a
DEMI C² SIN² in Base.

Rozell

C COTTISED.



Langford

a C² placed with a
BEND.

Hodotke

a C² surmounted by a
BENDLET.

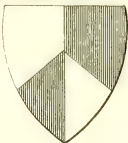
Cramwell

BENDY SINISTER
of Six a C².

Waterdale

BEND charged with 5 C².

Bruley

P² PALE and P² C².

Garth

P² PALE a CHEVRON
COUNTERCHANGED.

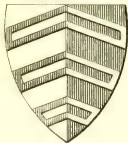
Blundell

a C² and CHIEF
P² FESS.

Barkham

P² PALE 6 CHEV²
COUNTERCHANGED.

Enderby

P² PALE 3 CHEV²
FIMBRATED C² C².

Sey

P² PALE CHEVRON.

Spotsworth

P² PALE and P² C².

Gosile

a PALE surmounted by a
CHEVRON.

Dyson

a C² and CHIEF
COUNTERCHANGED.

Norton

a C² and CHIEF
P² FESS.

Baynard

a CHIEF a BAR
ENGRAILED.

Gidington

P² PALE a C²
COUNTERCHANGED.

Bathwick

a FESS a C² in Chief.

Kerton

a FESS a C² in Base.

Baynard

a FESS between 2 CHEV².

Lick

a FESS between 4 CHEV².

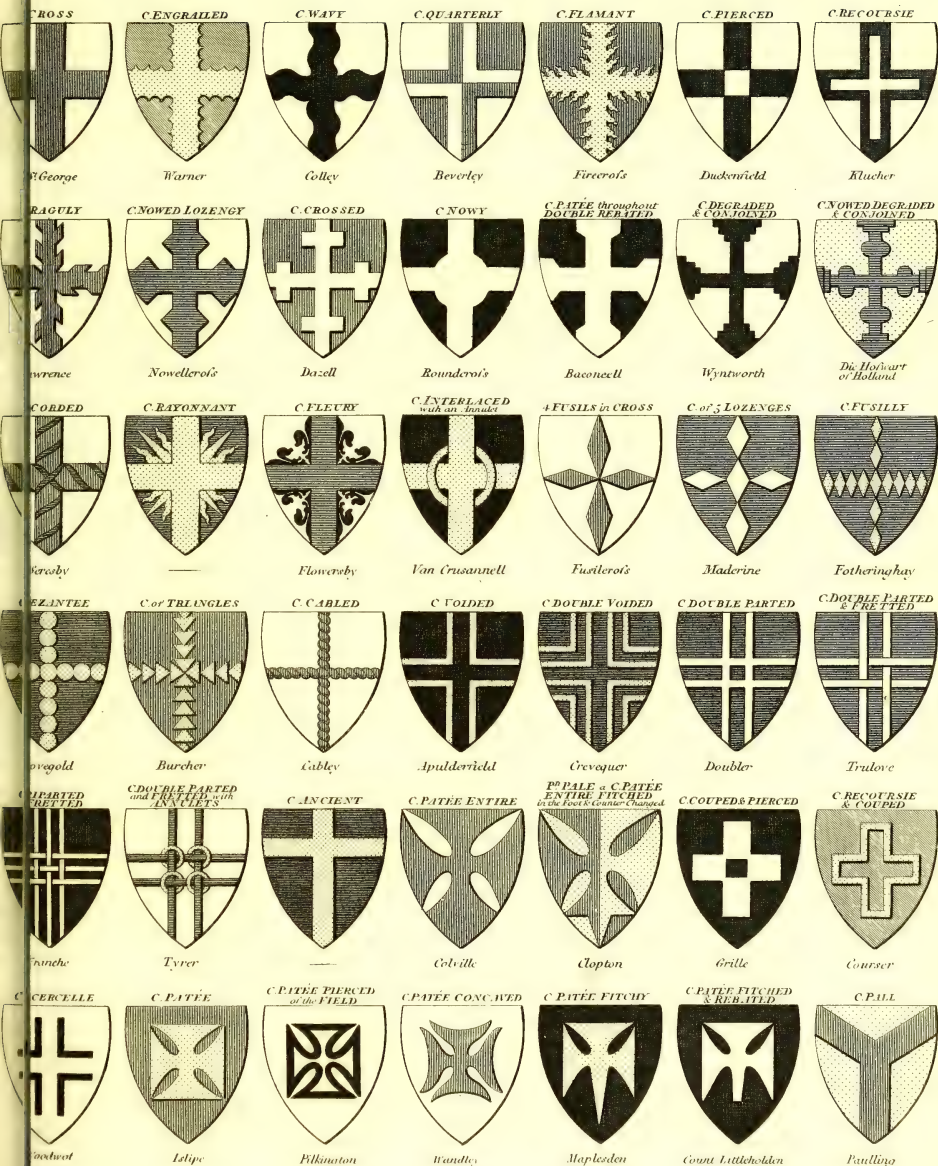
Ankby

a FESS charged with a C²
COUCHED SINISTER.

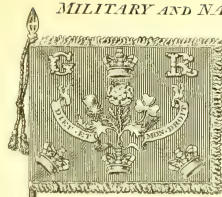
Trenouth



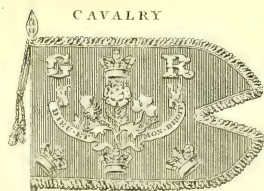




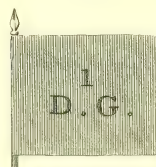




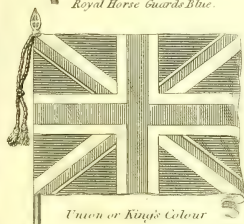
Standard of the
Royal Horse Guards Blue.



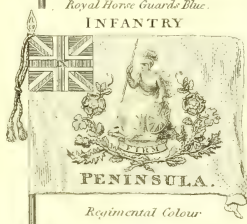
Guidon of the
Royal Horse Guards Blue.
INFANTRY



Camp Colour



Union or King's Colour

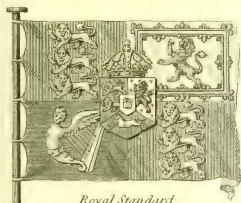


Regimental Colour

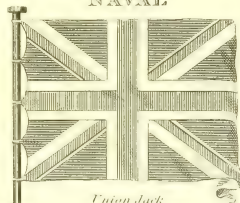


Camp Colour

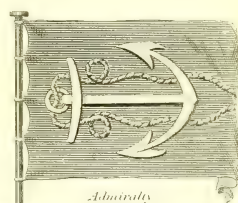
NAVAL



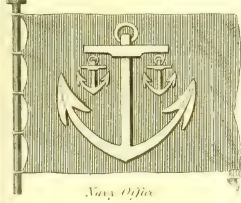
Royal Standard



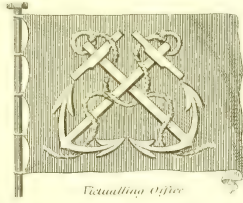
Union Jack



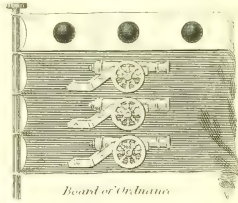
Admiralty



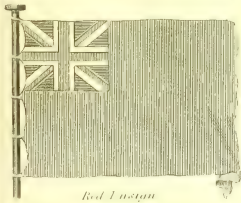
Navy Office



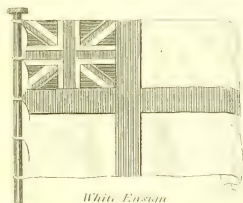
Vice-Admiralty Office



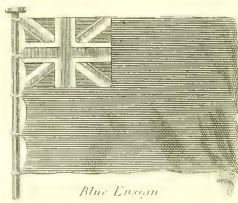
Board of Ordnance



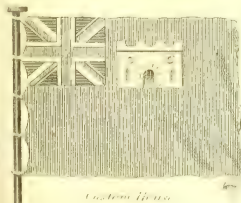
Red Ensign



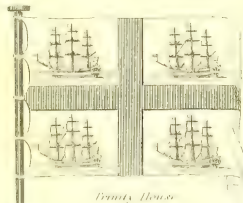
White Ensign



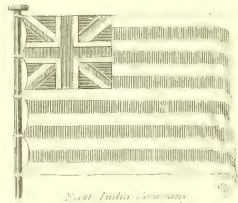
Blue Ensign



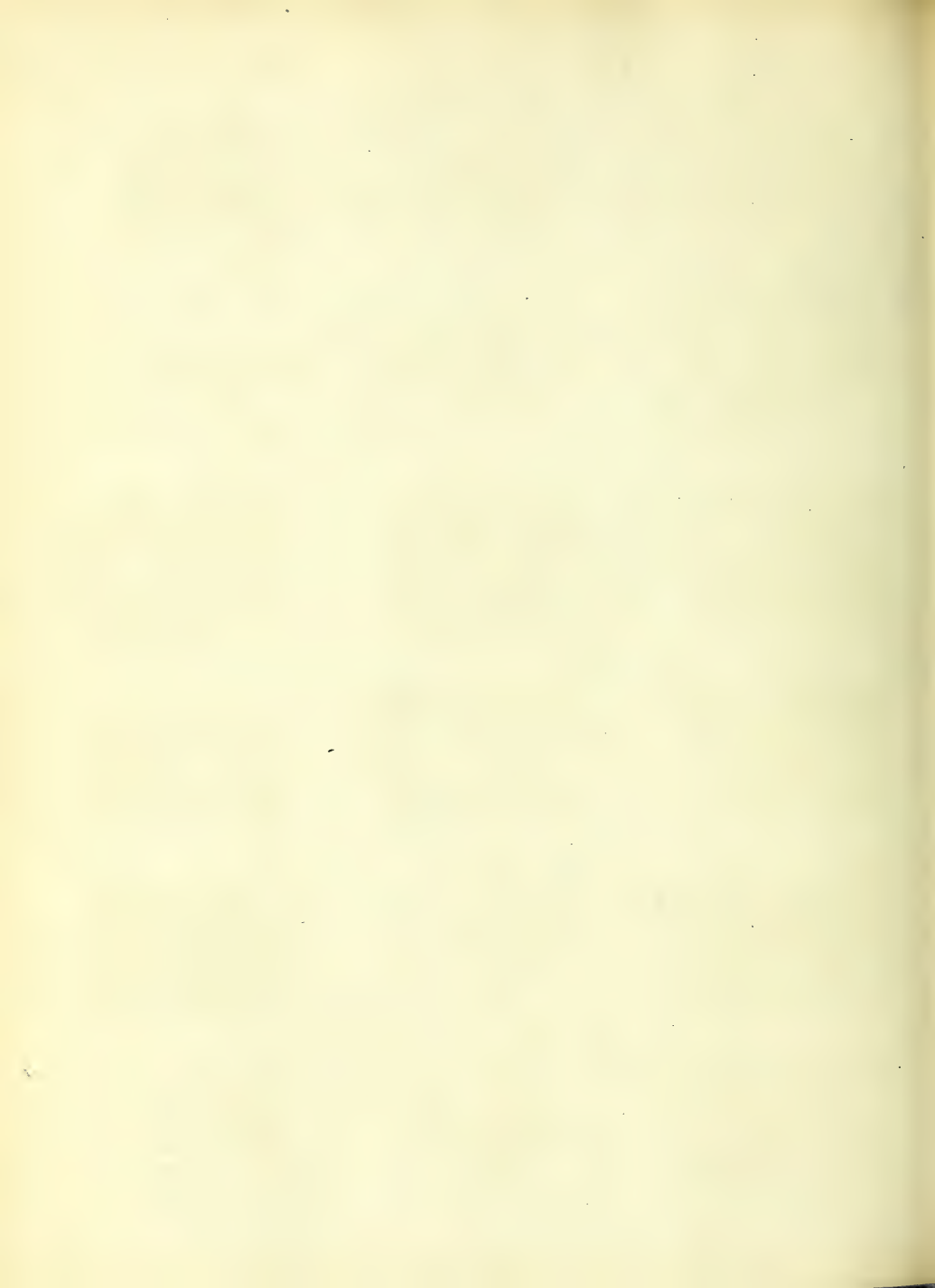
Eastern Division



Western Division



East India Company

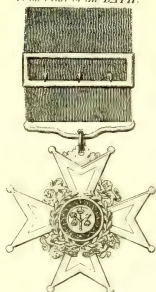


HERALDRY.
ORDERS of KNIGHTHOOD.

*Star Collar and Badge
of the Order
of the GARTER*



*Badge of a Companion
of the Order of the BATH*



*Star Collar and Badge
of a Military Knight Grand Cross
of the Order of the BATH*



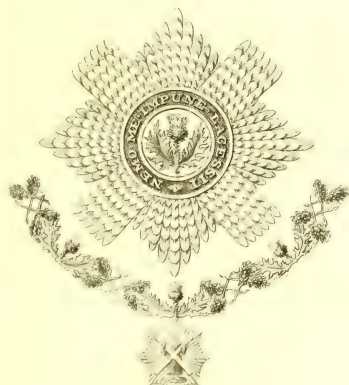
*Star Collar and Badge
of a Military Knight Grand Cross
of the Royal Hanoverian Guelphic Order*



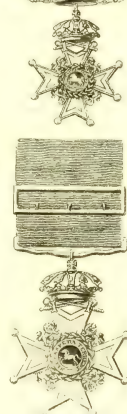
*Badge of a Military Commander
of the Royal Hanoverian Guelphic Order*



*Badge of a Knight Commander
of the Order of the BATH*



*Star Collar and Badge
of the Order of the THISTLE*



*Star Collar and Badge
of a Military Knight
of the Royal Hanoverian
Guelphic Order*

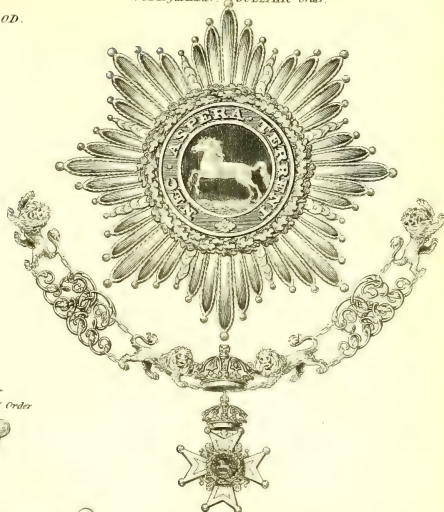


*Star Collar and Badge
of the Order of ST. PATRICK*



HERALDRY.

ORDERS of KNIGHTHOOD.



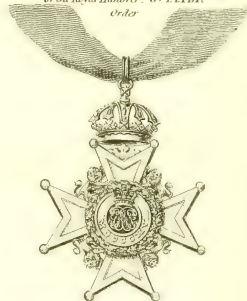
Star of a Civil Commander
of the Royal Hanoverian GUELPHIC Order



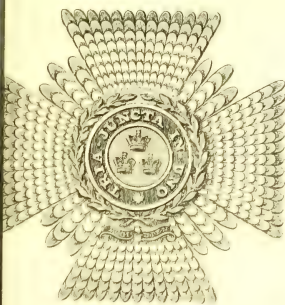
Ribbon & Badge of a Civil Commander
of the Royal Hanoverian GUELPHIC
Order.



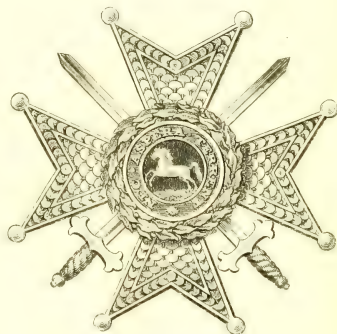
Reverse of the Ribbon & Badge
of the Royal Hanoverian GUELPHIC
Order



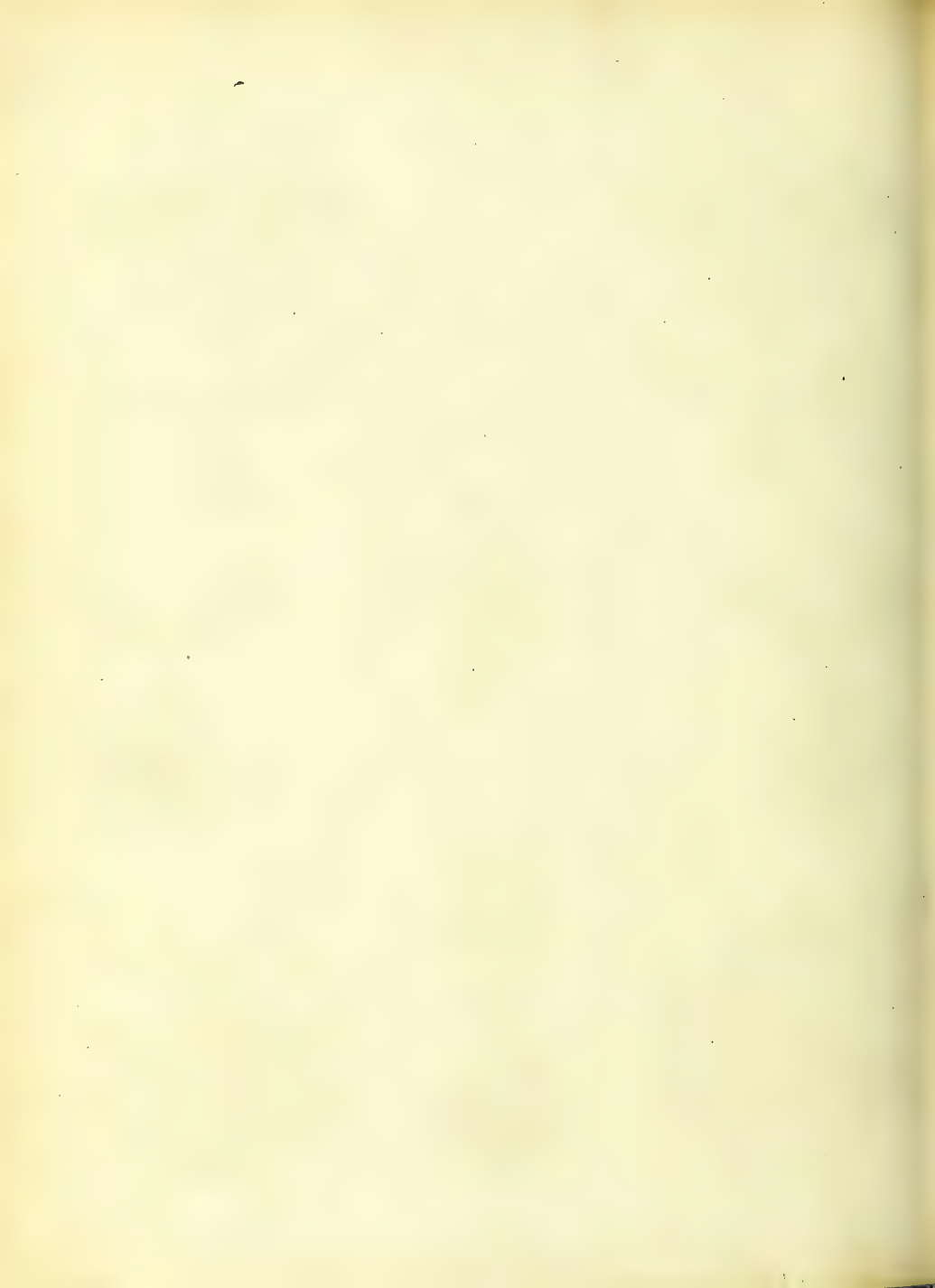
Badge of a Civil Knight
of the Royal Hanoverian GUELPHIC Order



Star of a Knight Commander
of the Order of the BATH



Star of a Military Commander
of the Royal Hanoverian GUELPHIC Order



HERALDRY.

CROWNS, CORONETS AND MITRES

PLATE X



*Pope
of the King*



Scotland



England



Hanover



*King
of the King*



Prince of Wales



Prince of Wales



*Dauphin
of the King*



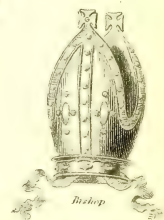
Arch Bishop



*Grand Daughters
of the King*



*Prince Leopold
of Saxe-Coburg*



Bishop



Duke



Marquis



Earl



Viscount



Baron



*Count
of Hanover*



Hungary



Austria



Bohemia



*Baron
of Hanover*



Russia



*Count
of the Empire*



*Prince
of the Empire*



*Baron
of Austria*



France



*Dauphin
of France*



*French Prince
of the Blood*



*Duke
of Prussia*



*Marquis
of France*



Charlemagne



HERALDRY.
CROWNS, CORONETS, MITRES, &c.

PLATE X.



Comte of France



Prussia



Spain



Sweden



Vicomte of France



Duke of Spain



Portugal



Sicily



Netherlands



Denmark



Wurttemberg



Bavaria



Grand Signior



Lionel's



Persia



Saxony



Sardinia



Hayti



Cardinal's Hat



Grand Duke of Hesse



Poland



Grand Duke of Saxe-Weimar



Imperial Crown worn by Napoleon Buonaparte



Italy



Doge of Venice



Grand Duke of Tuscany



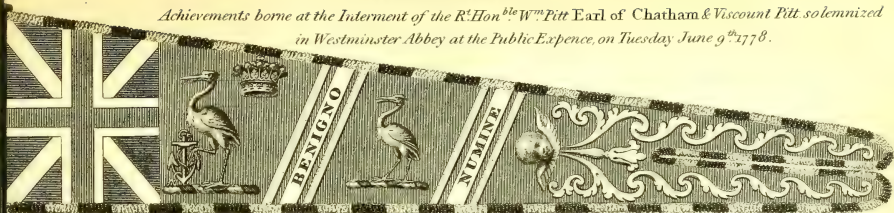
Landgrave of Hesse



Lord Mayor of London



Achievements borne at the Interment of the R.^tHon.^{ble} W.^m Pitt Earl of Chatham & Viscount Pitt solemnized in Westminster Abbey at the Public Expence, on Tuesday June 9th 1778.



The Standard



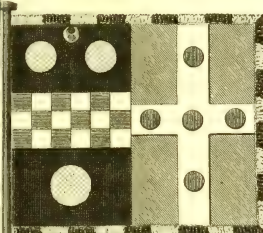
The Banner of the
Barony of Chatham



Target & Sword



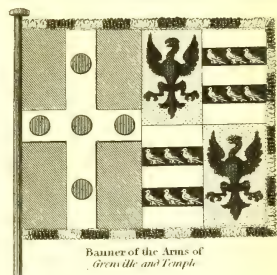
The Great Banner.



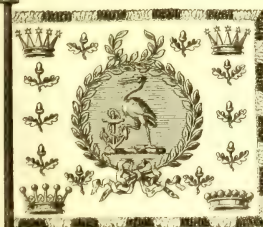
Banner of the Arms of
Pitt and Grenville



Helmet & Crest



Banner of the Arms of
Grenville and Temple



Banner of the Crest
of Pitt with Emblems



Surcoat



Banner of the Arms
of Pitt with Emblems



Bachelor



Lamb

Funeral

Peer

Achievements



Earl of Waldegrave K.G.
Wife surviving

Spinster



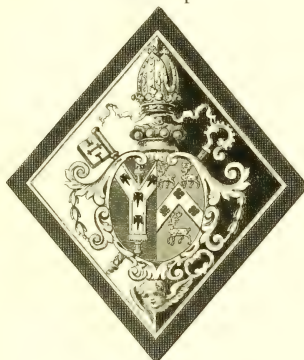
Egerton

Husband



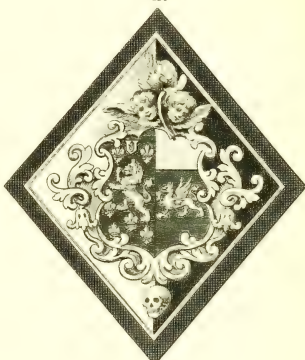
Beaumont & Evelyn
Wife surviving

Arch Bishop



Lord Robey
ARCH BISHOP of ARMAGH

Wife



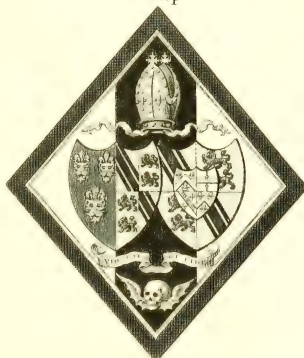
Beaumont & Evelyn
Husband surviving

Husband & Wife



James S. Archer
both dead

Bishop



Harley
BISHOP of WILMSTON

Widow



Raper & Terter



Heraldic Crowns Coronets and Helmets.



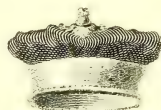
Nobility



King of Arms



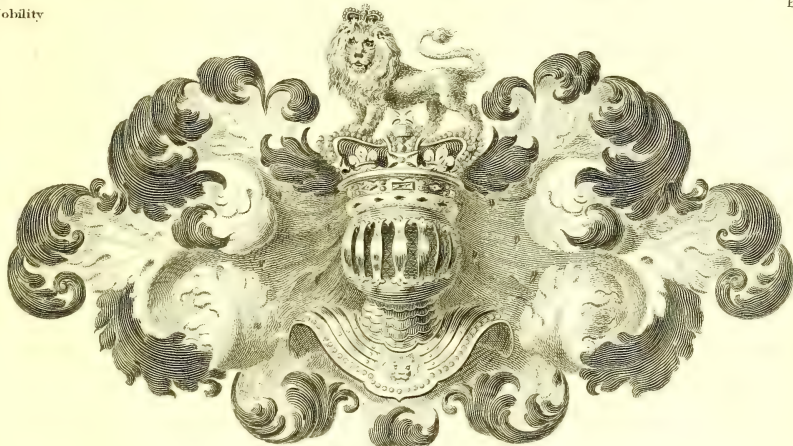
Baronet & Knight



Ancient Barons Cap
worn previous to 1603.



Esquire



Helmet, Crest and Mantling or Lambrequin
of the
BRITISH SOVEREIGN.



Ducal



Mural



Naval



Vallaric



Palifado
or Castrensal.



Civic



Eastern



Chapeau
or Cap of Maintenance.



Celestial



Chaplet
or Garland



Wreath



Laureate



Oblational

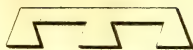


Olive



Trigonal





Prince of Wales



Duke of York



Duke of Clarence



Duke of Kent



Duke of Cumberland



Duke of Sussex



Duke of Cambridge

DISTINCTIONS OF HOUSES

FIRST HOUSE					
First Son	Second Son	Third Son	Fourth Son	Fifth Son	Sixth Son
1	2	3	4	5	6
SECOND HOUSE					
1	2	3	4	5	6
THIRD HOUSE					
1	2	3	4	5	6
FOURTH HOUSE					
1	2	3	4	5	6
FIFTH HOUSE					
1	2	3	4	5	6
SIXTH HOUSE					
1	2	3	4	5	6



Princess Mary



Princess Sophia



Princess Amelia



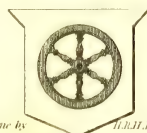
Princess Sophia Matilda of Gloucester

FIRST HOUSE CONTINUED

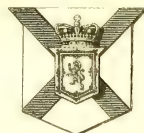
Seventh Son	Eighth Son	Ninth Son



Badge of Barons
of England & Ireland.



Badge borne by
H.R.H. Duke of York
as Bishop of Osnaburgh.



Badge of Barons
of Nova Scotia



ANCIENT CLEPSYDRE.

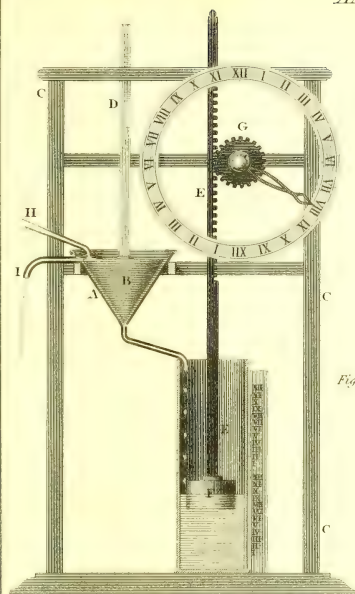


Fig. 1.

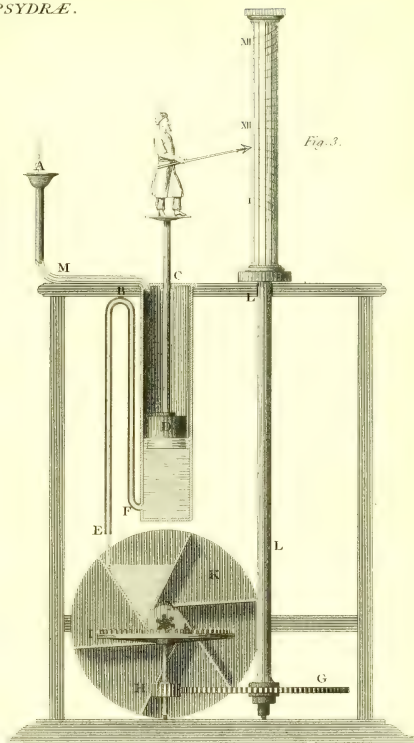


Fig. 3.

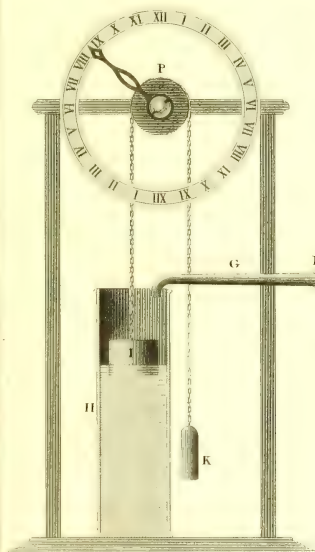
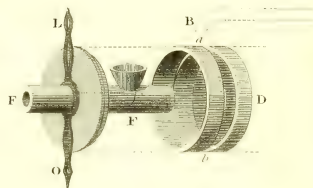
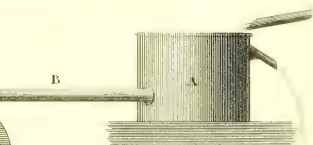
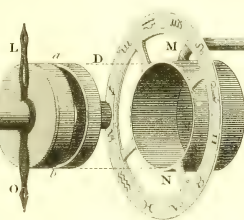


Fig. 2.





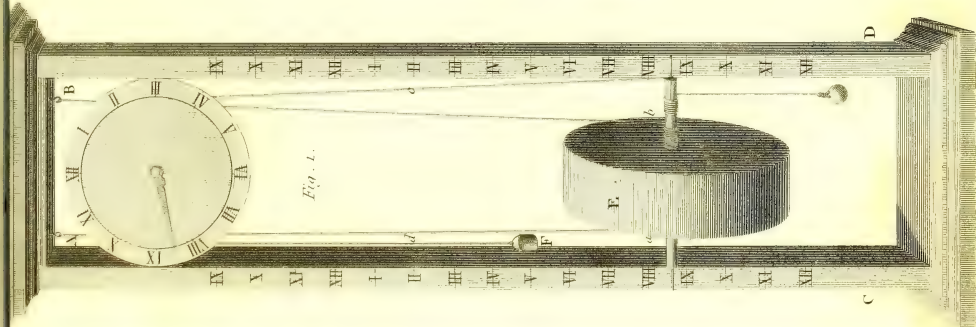


Fig. 1.

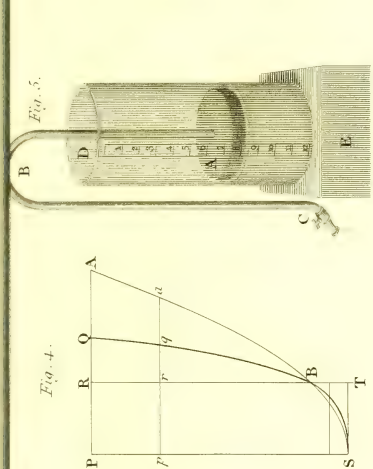


Fig. 2.

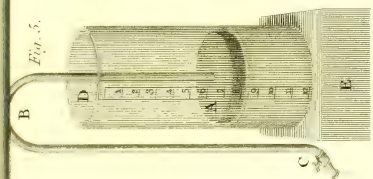


Fig. 3.

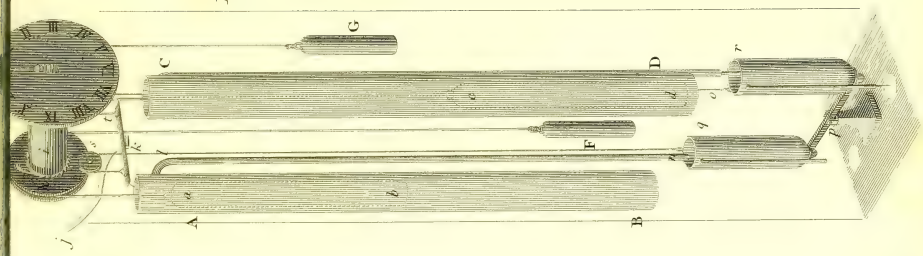


Fig. 4.

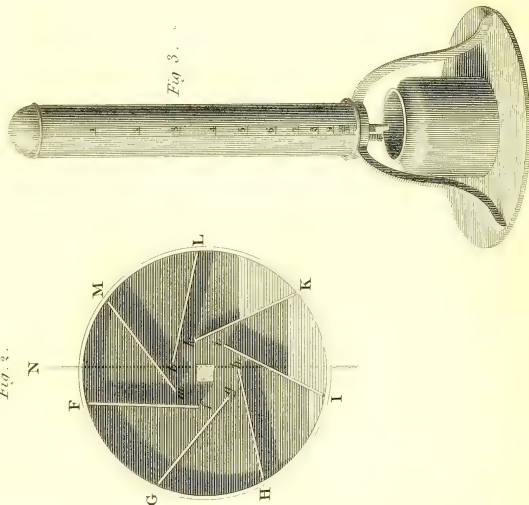
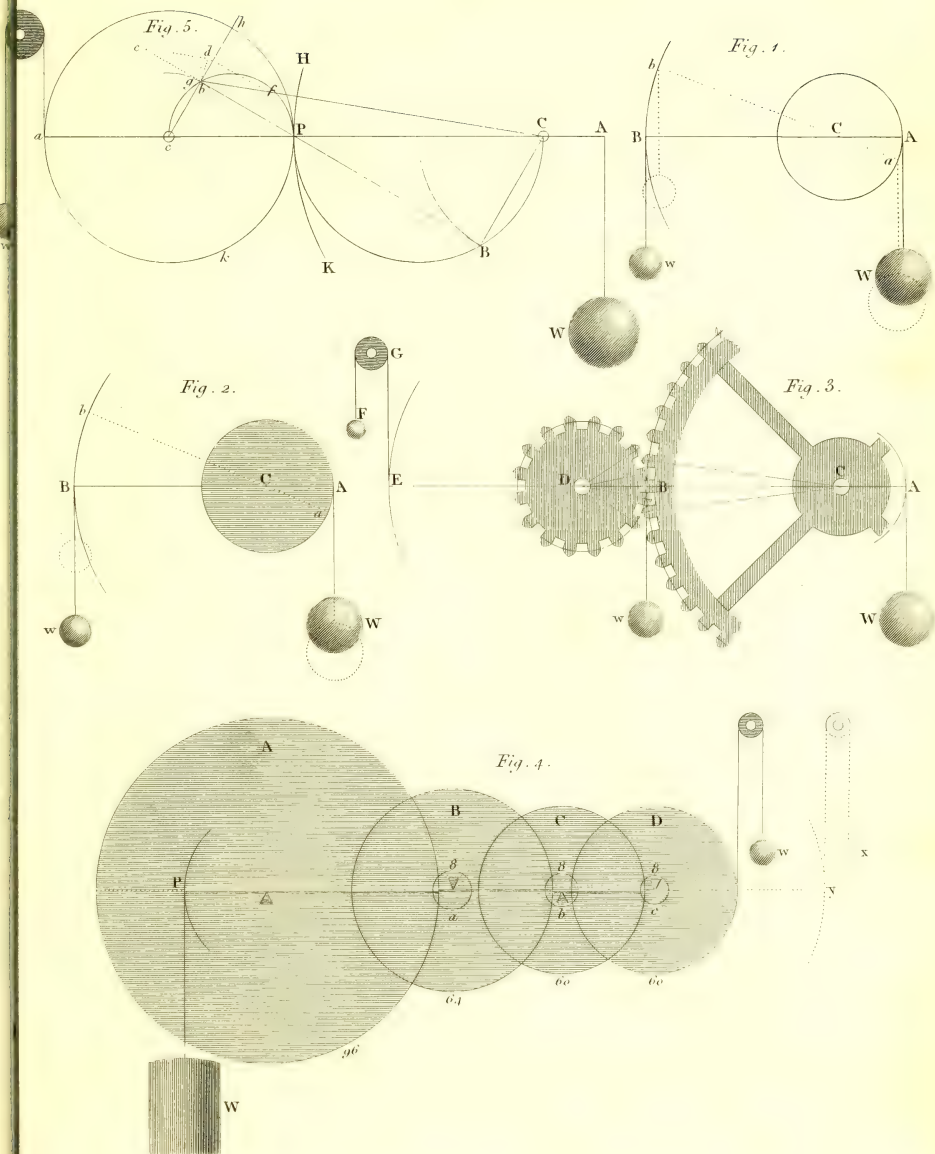


Fig. 5.



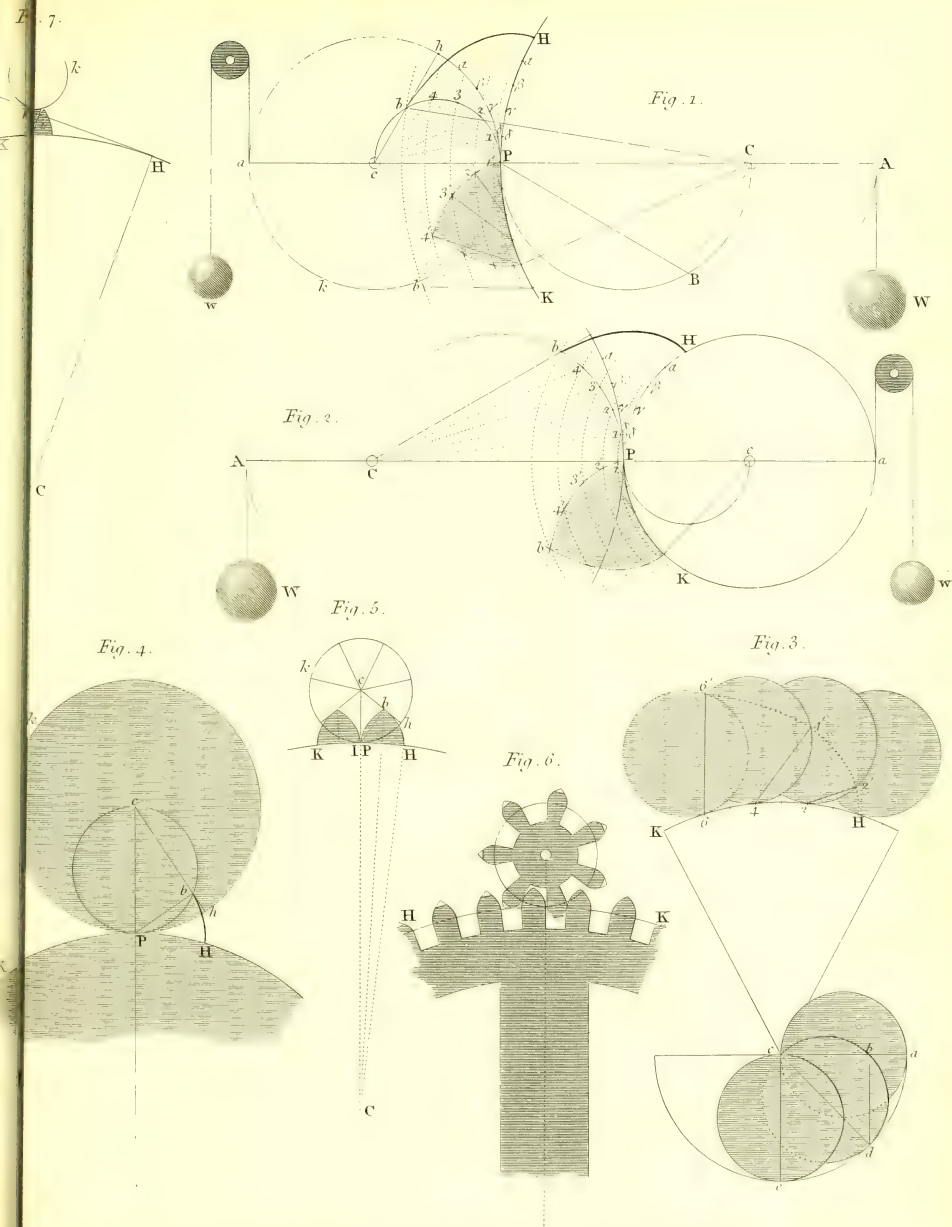
CLOCK-MOVEMENT.





HOROLOGY.
CLOCK-MOVEMENT.

PLATE IV.





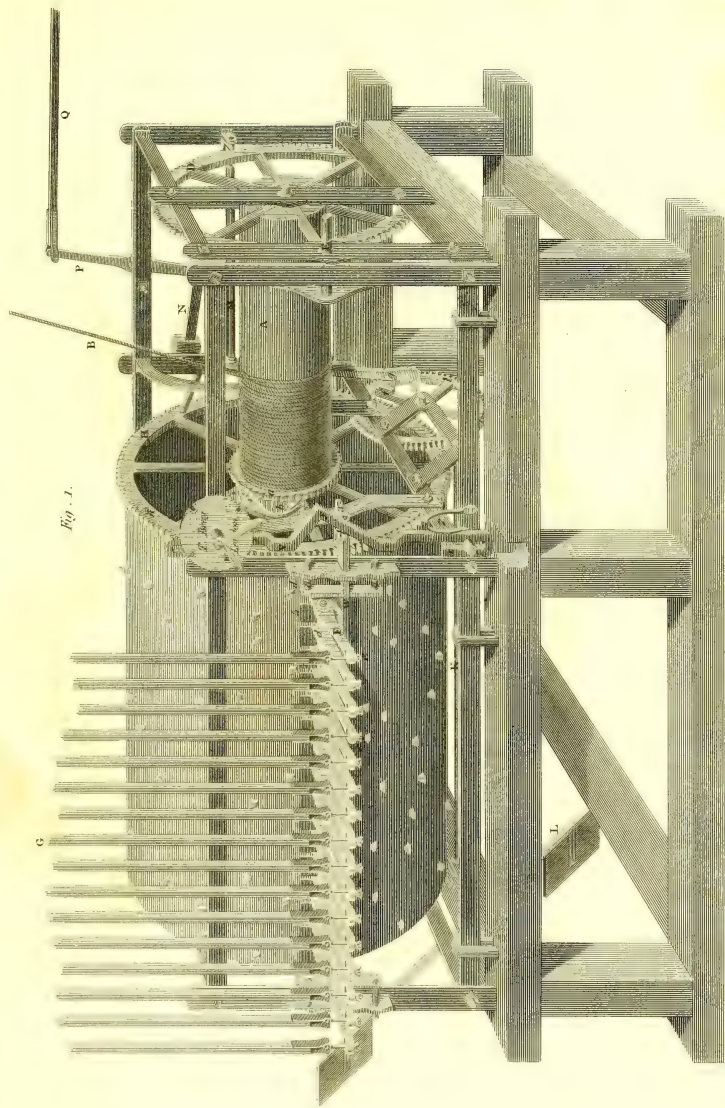


Fig. 1.



Fig. 2.

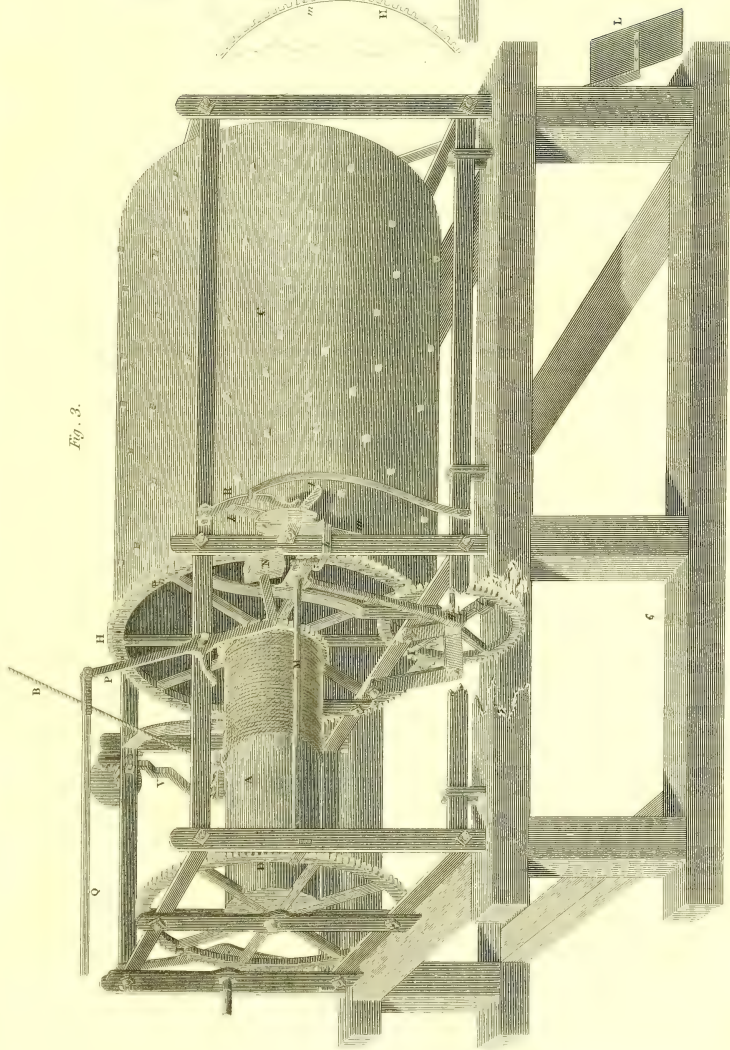


Fig. 3.

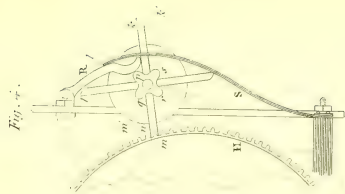


Fig. 4.



HOROLOGY.

CHIMES.

Pleyel's German Hymn.

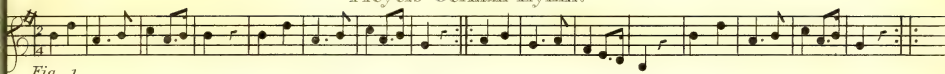


Fig. 1.

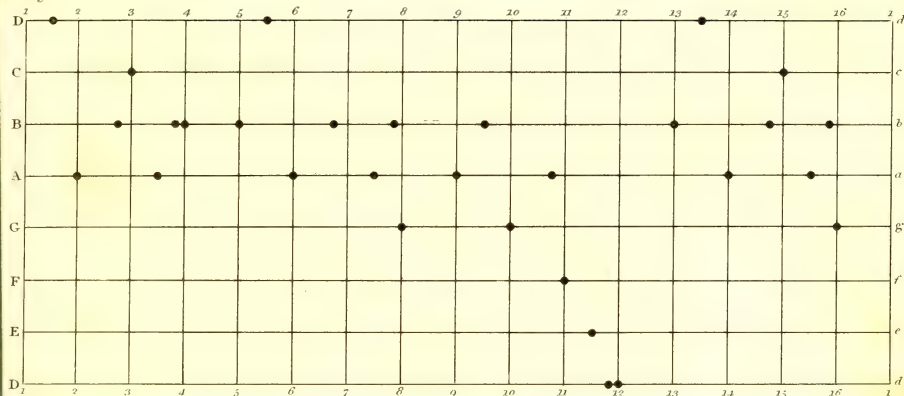


Fig. 4.

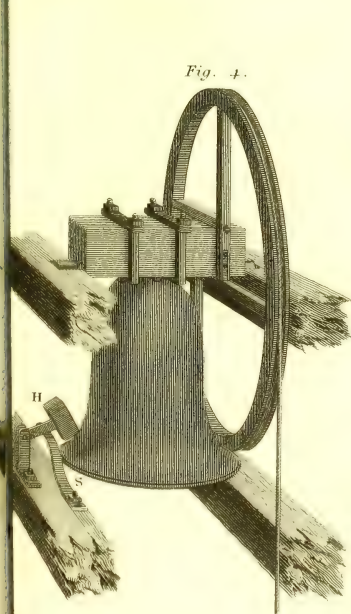


Fig. 3.

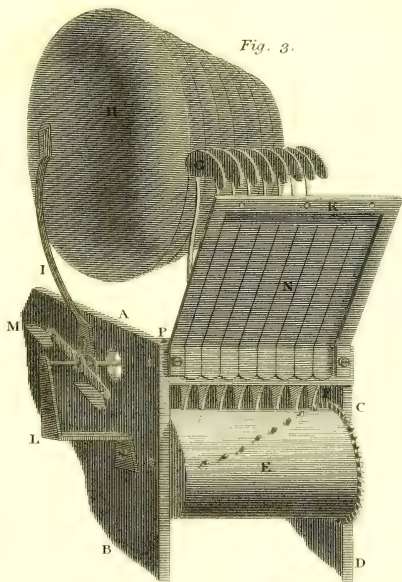
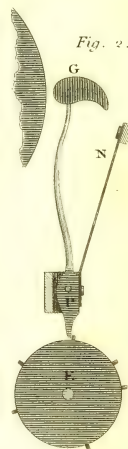


Fig. 2.





ANCIENT CLOCK BY HENRY DE WICK, IN 1370.

Fig. 1.

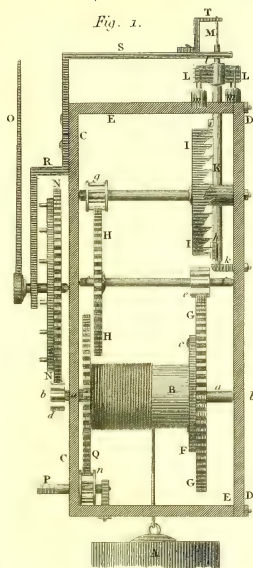


Fig. 3.

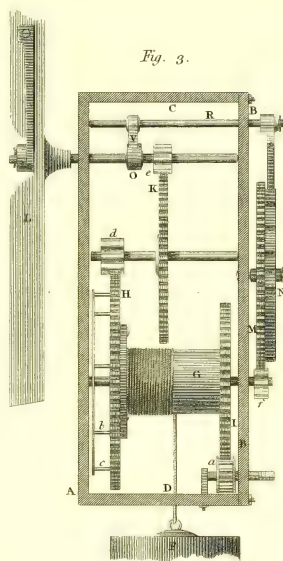


Fig. 2.

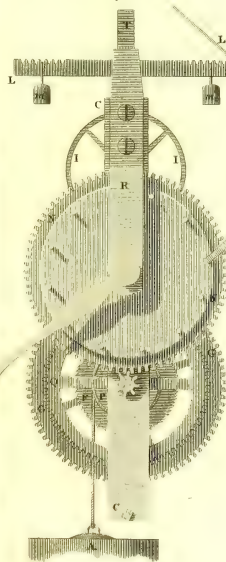


Fig. 4.

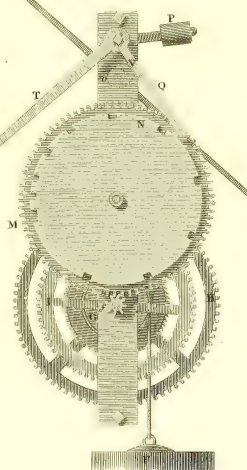
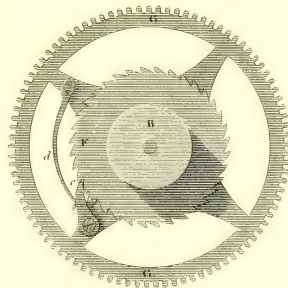


Fig. 5.





HOROLOGY.

PLATE IX.

A Thirty hours Clock with a Laron and Count Wheel Striking Work.

Fig. 1.

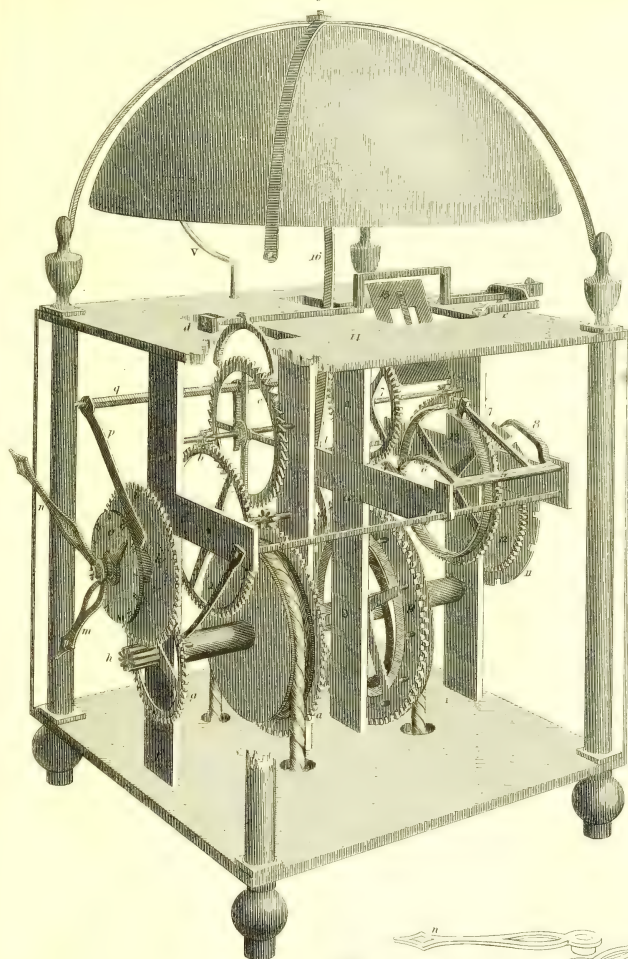


Fig. 3.

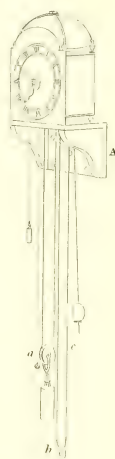
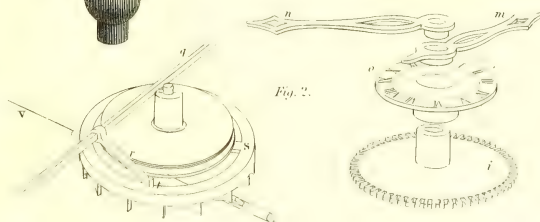


Fig. 2.





CALLIPERING.

(ART. CLOCK)

Fig. 2.

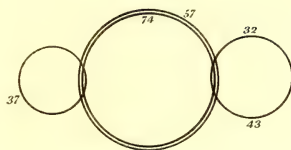


Fig. 1.

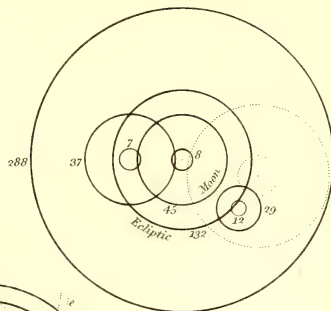
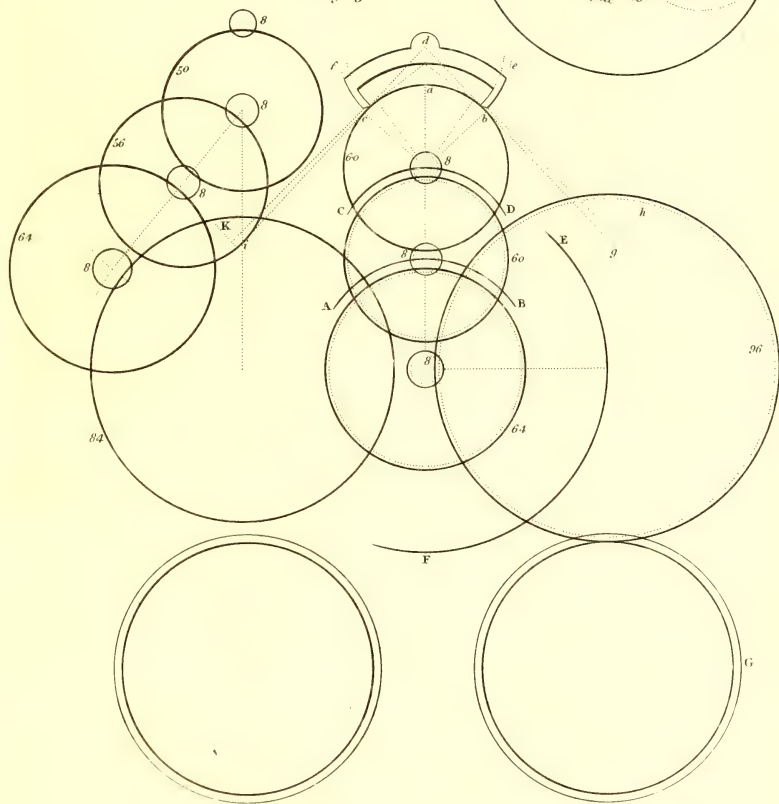


Fig. 3.

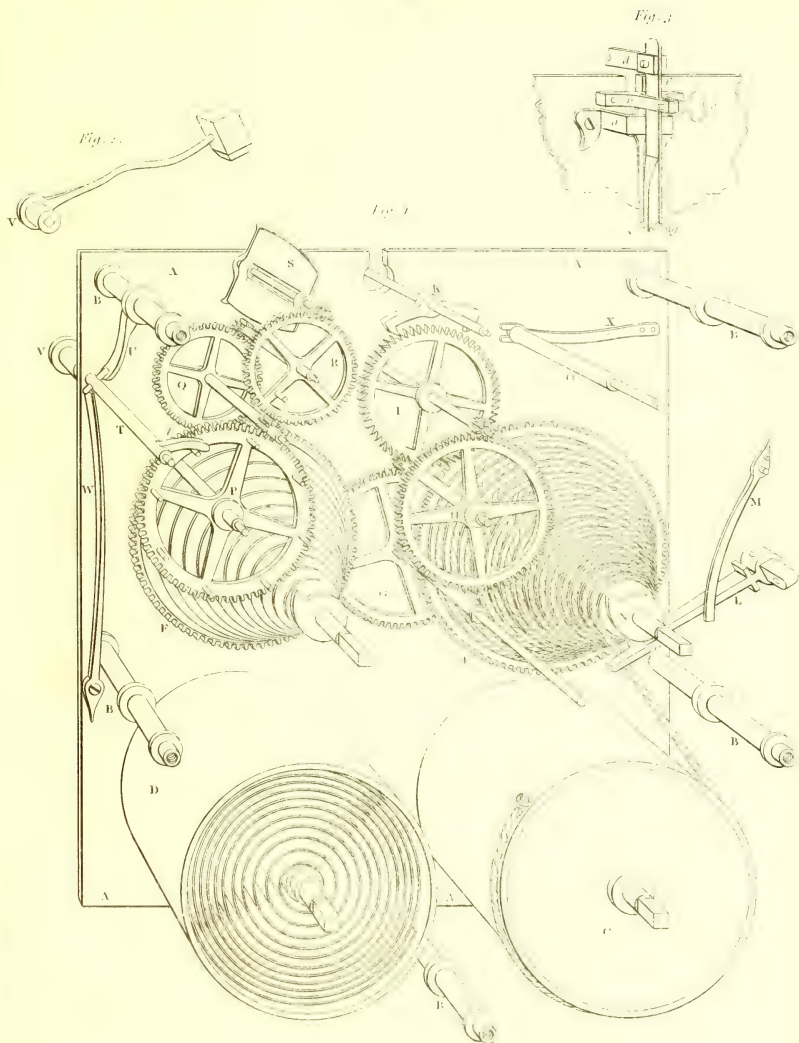




HOROLOGY.

PLATE XI.

Portable eight days Clock.

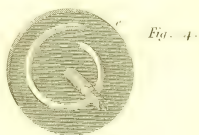
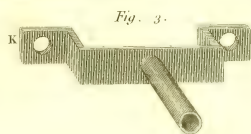
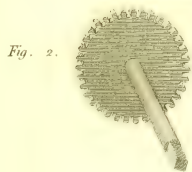
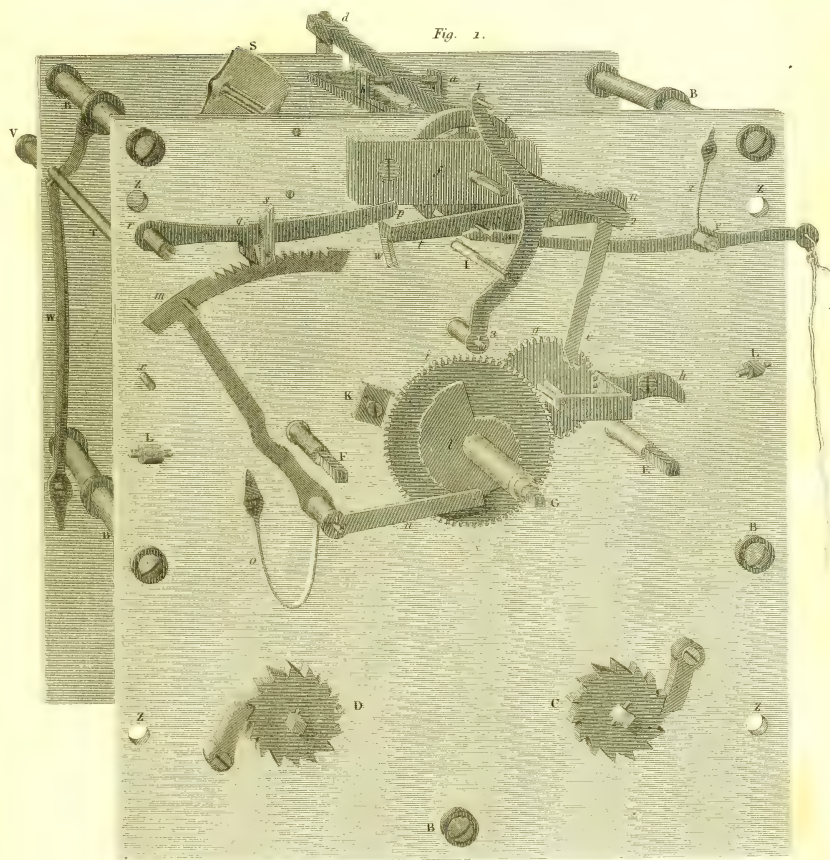




HOROLOGY.

PLATE XII.

DIAL WORK AND STRIKING PART OF AN EIGHT DAYS CLOCK.





M^r. Mudge's TIME KEEPER.

Fig. 3.

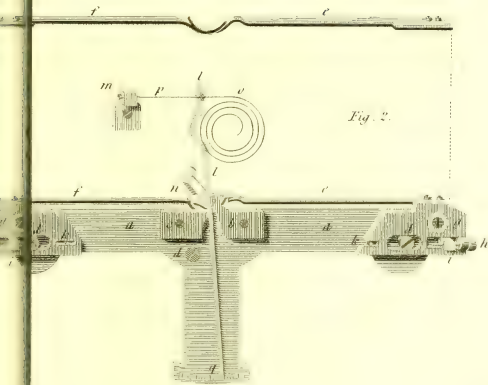


Fig. 2.

Fig. 1.

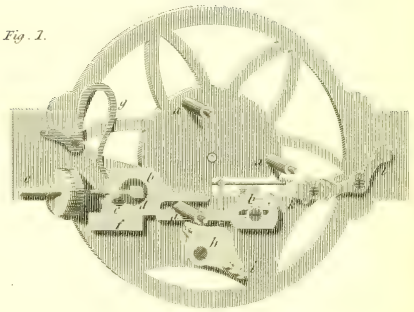


Fig. 5.

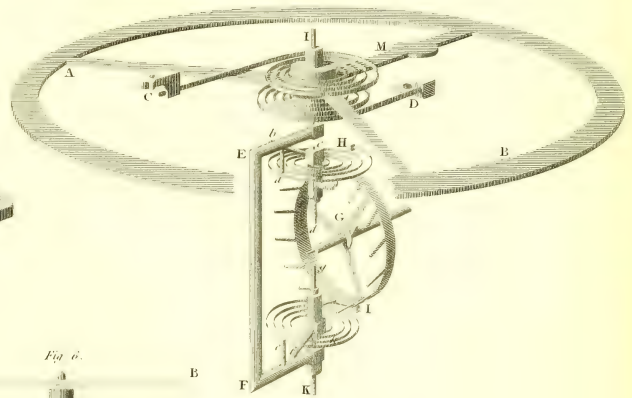


Fig. 4.



Fig. 7.

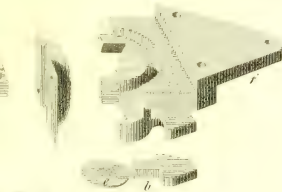
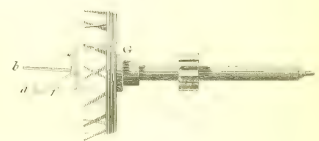
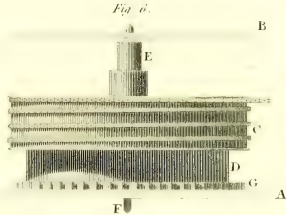
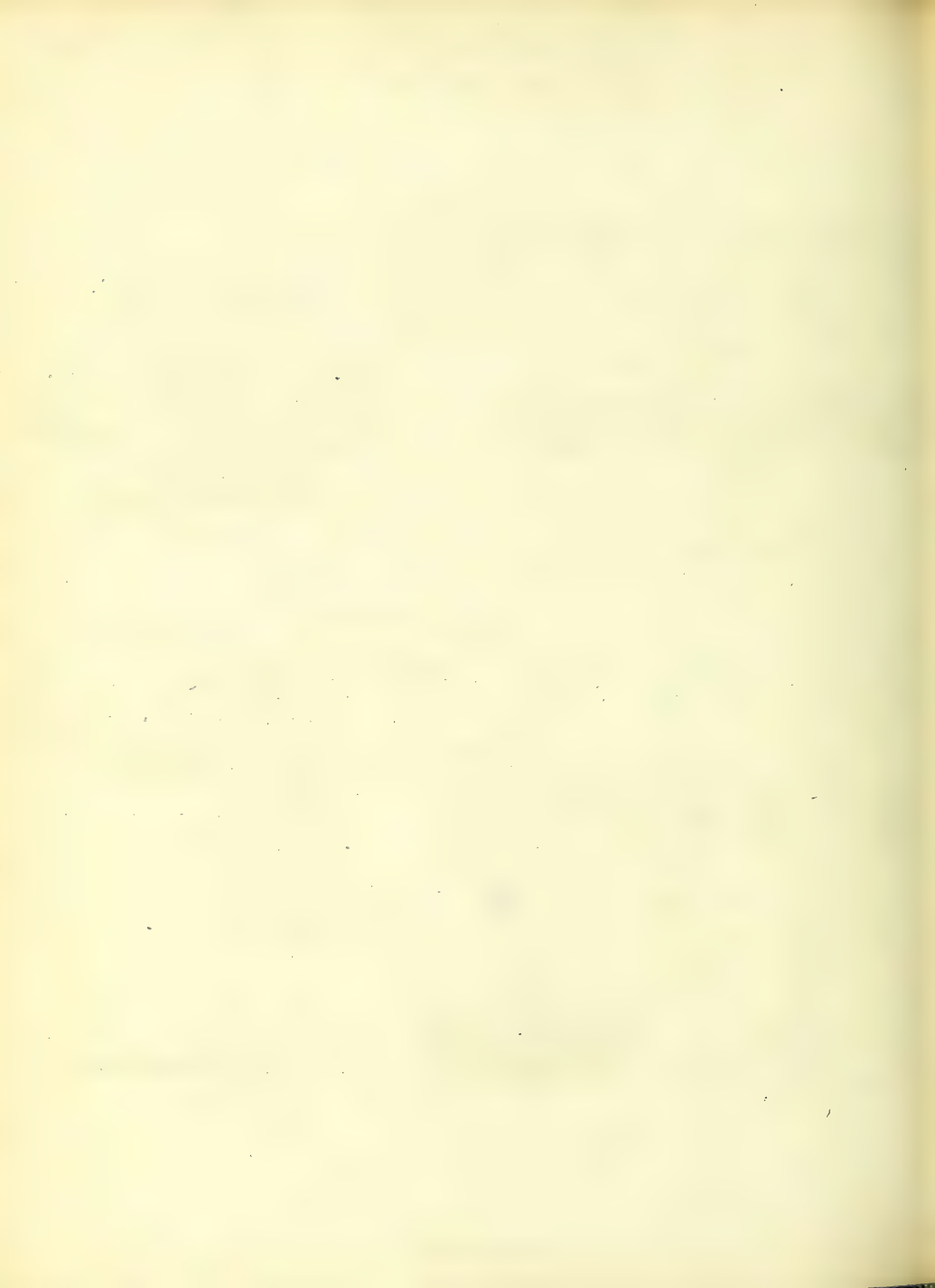
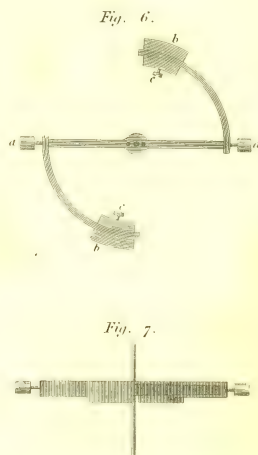
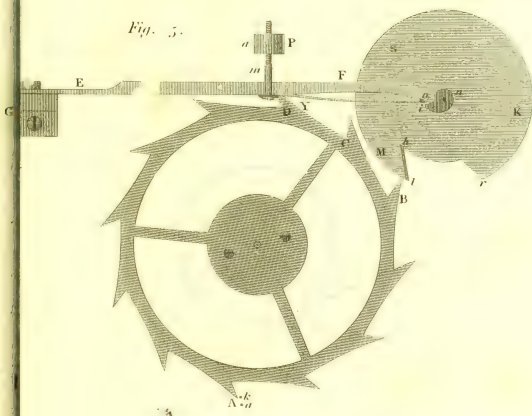
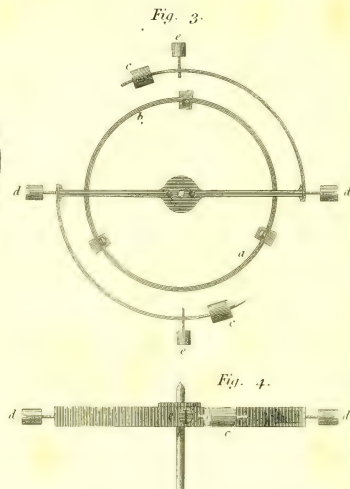
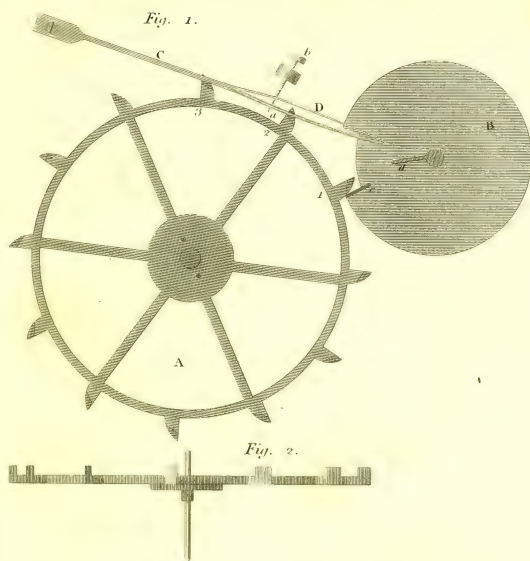


Fig. 6.





ARNOLD'S AND EARNSHAW'S, CHRONOMETERS.





HORLOGY. BROCKBANKS CHRONOMETER.

PLATE XV.

Fig. 1.

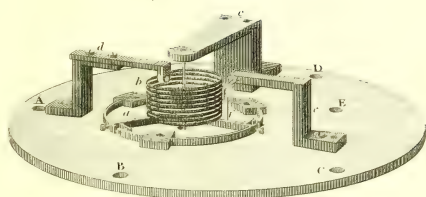


Fig. 2.

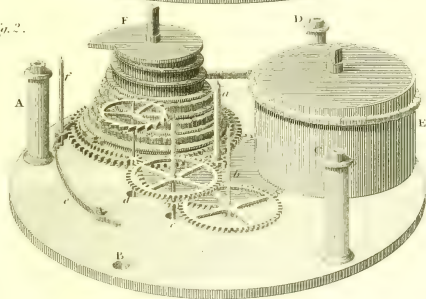


Fig. 3.

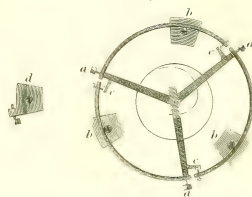


Fig. 4.

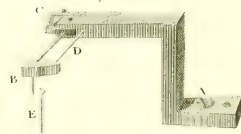


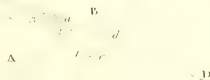
Fig. 5.



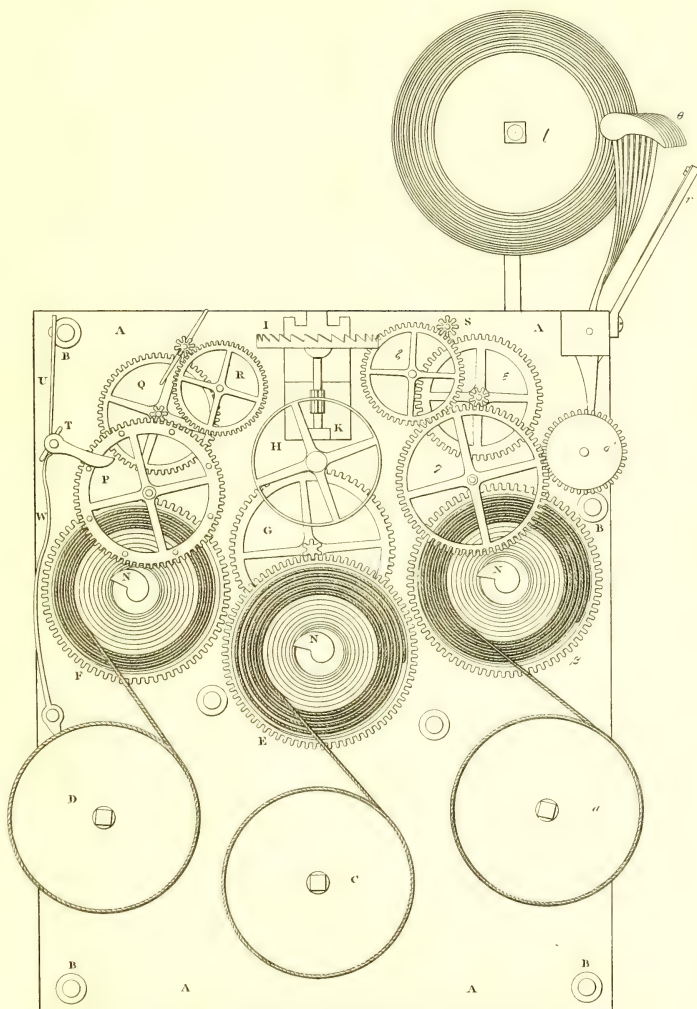
Fig. 6.



Fig. 7.



CLOCK WITH CHIMES.

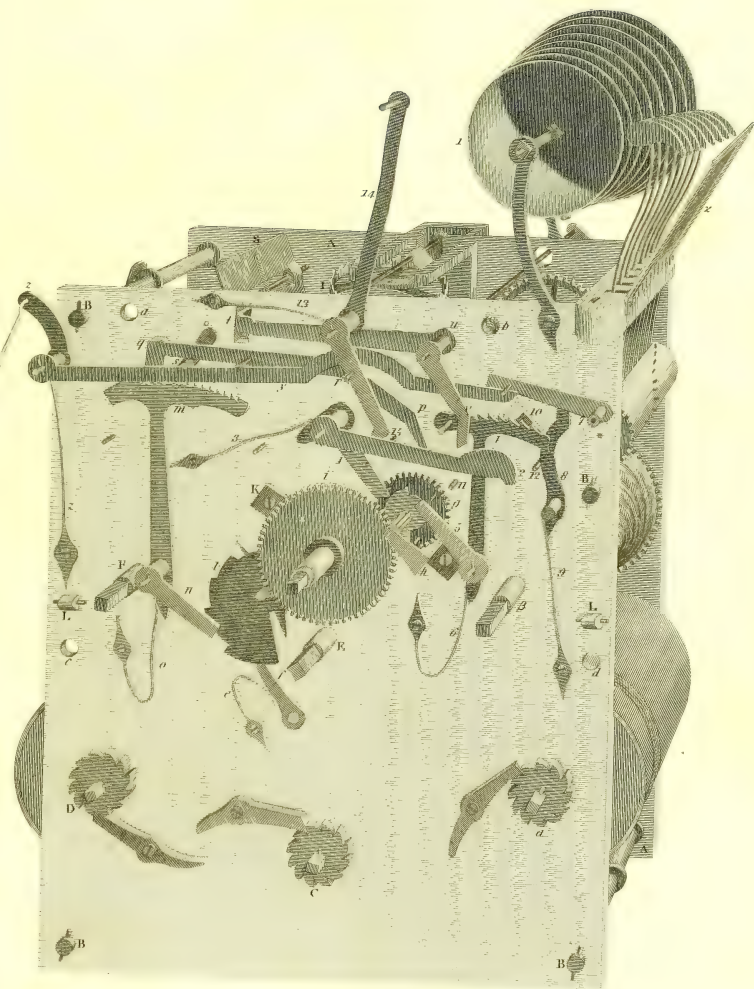




HOROLOGY.

PLATE XVII.

CLOCK WITH CHIMES.





HOROLOGY.

PLATE XVIII.

2nd Clock by M^r. Ferguson

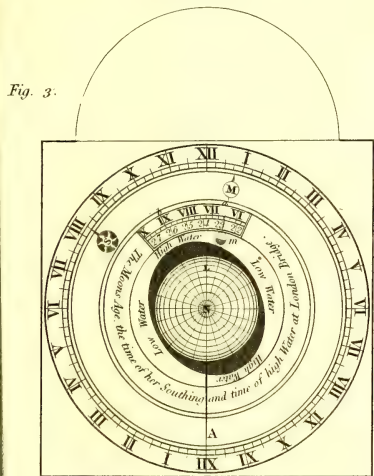


Fig. 3.

Clock by D. Franklin

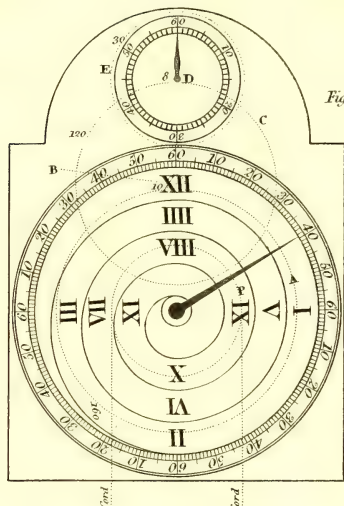


Fig. 1.

Fig. 4.

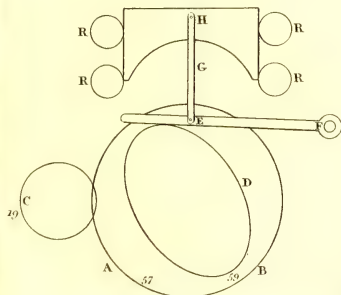
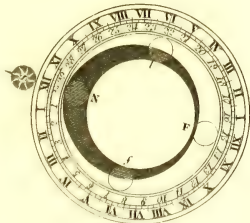


Fig. 5.



Clock by M^r J. Ferguson

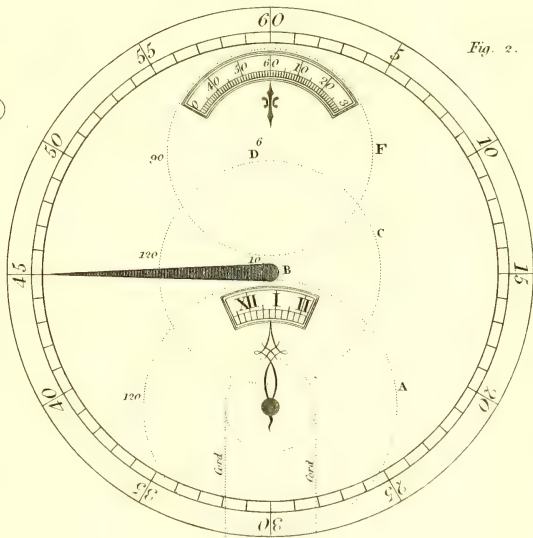
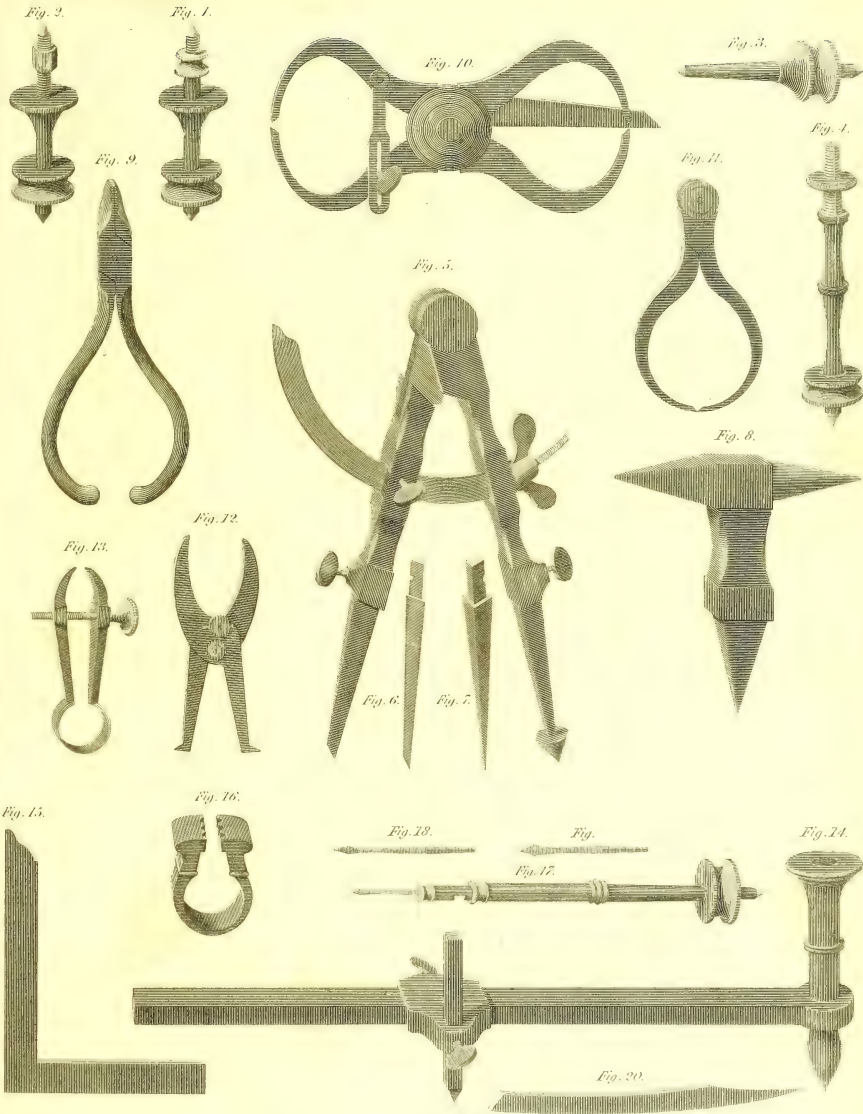


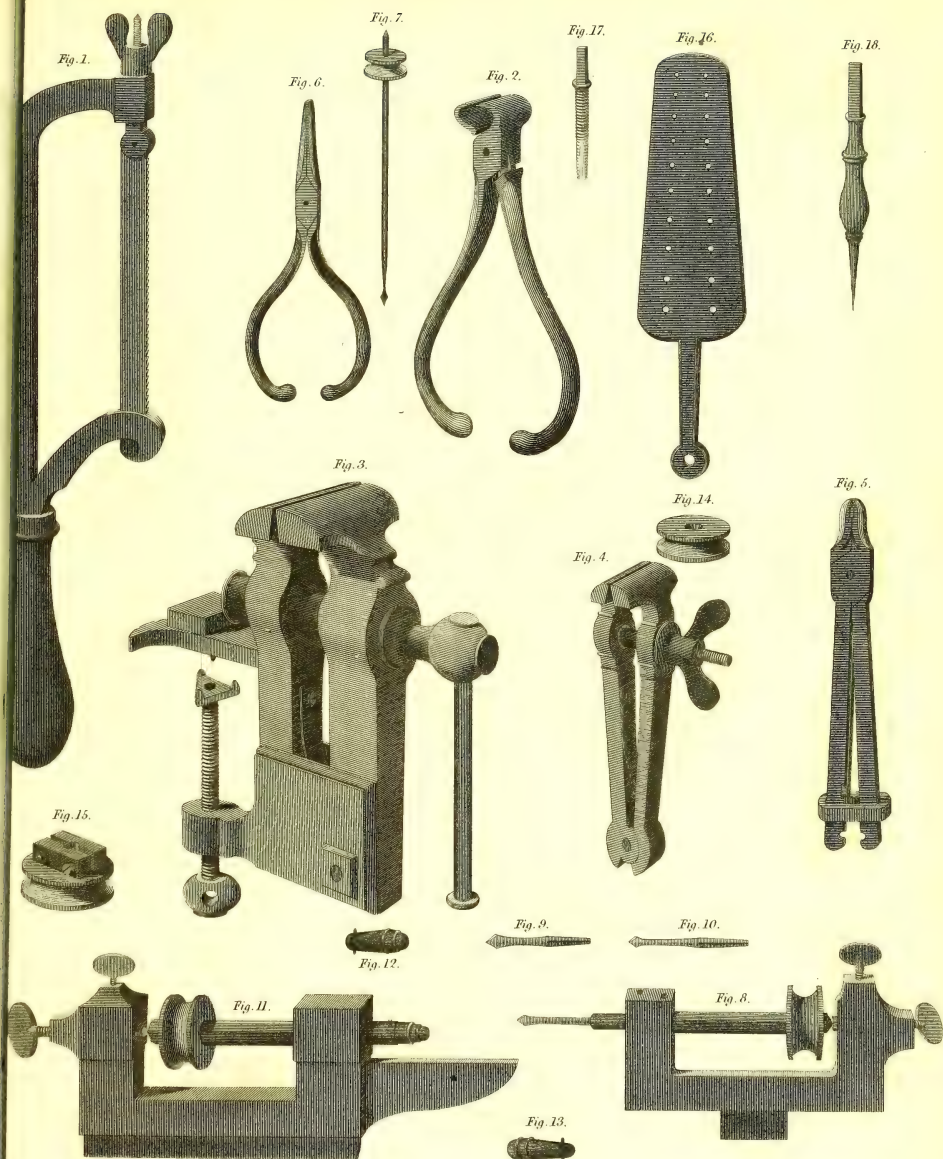
Fig. 2.

CLOCK TOOLS.



HOROLOGY. CLOCK TOOLS.

PLATE XX.



HOROLGY. CLOCK TOOLS.

PLATE XXI.

Fig. 1.

Fig. 11.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 12.

Fig. 7.

Fig. 13.

Fig. 14.

Fig. 15.

Fig. 16.

Fig. 17.

Fig. 8.

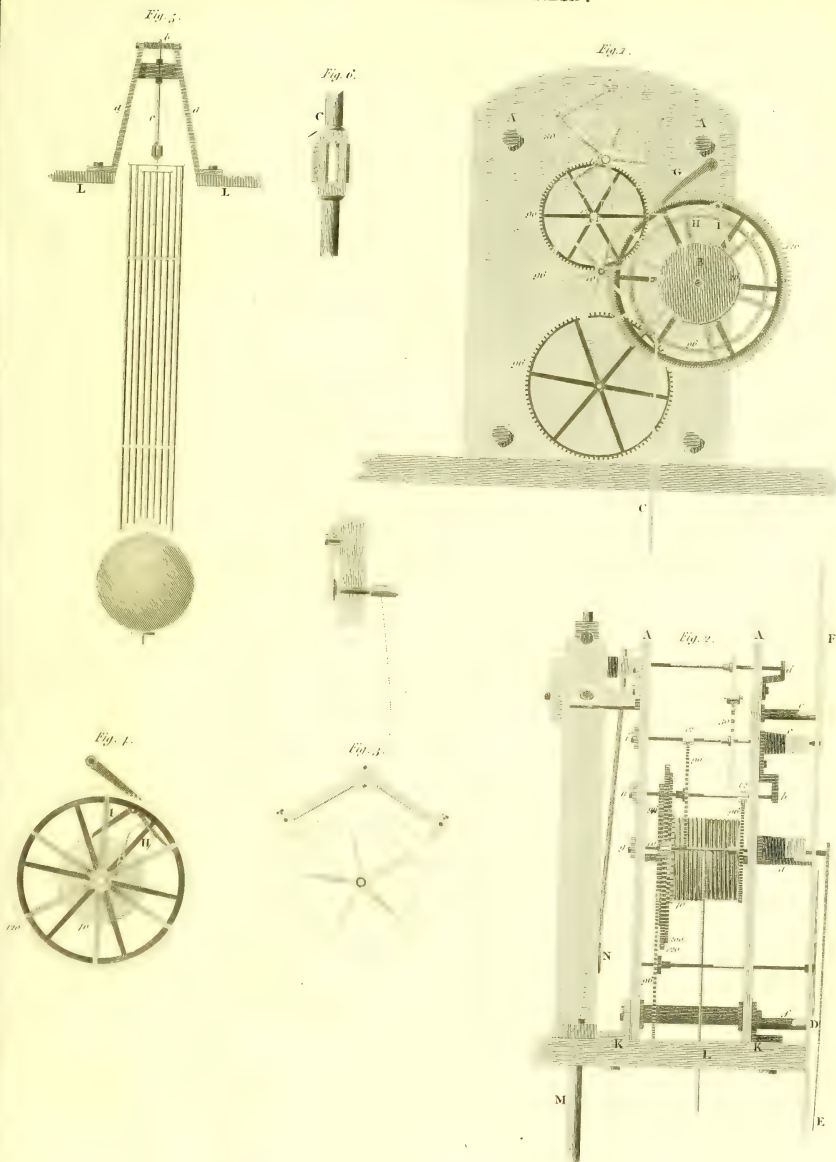
Fig. 9.



HOROLOGY.

PLATE .XVII.

ASTRONOMICAL CLOCK BY REID.



Astronomical Clock by Messrs. Brocchbanks.

Fig. 1.

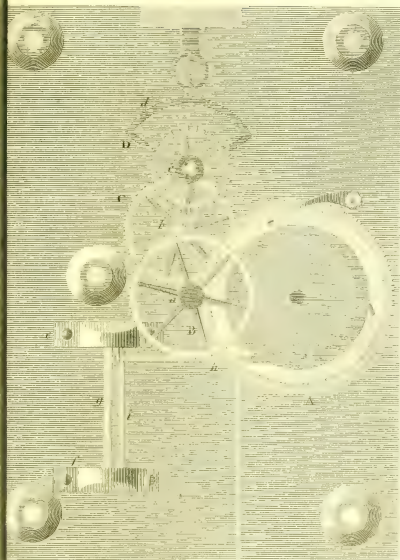


Fig. 2.

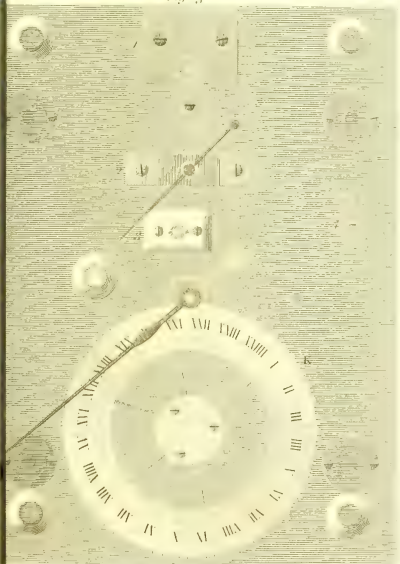


Fig. 3.

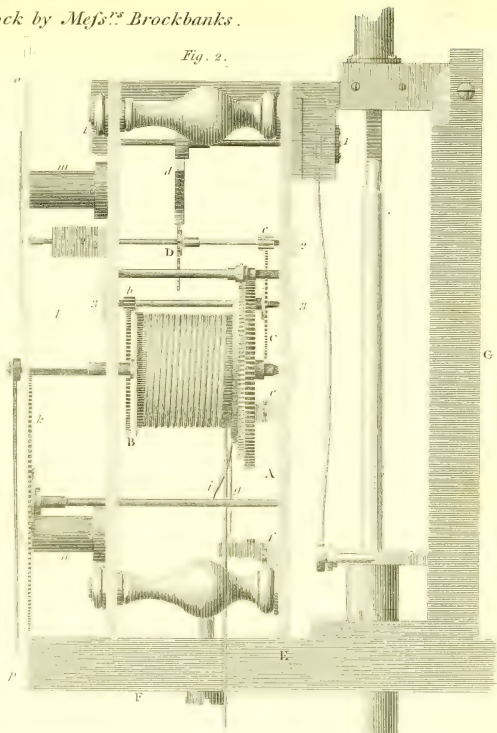
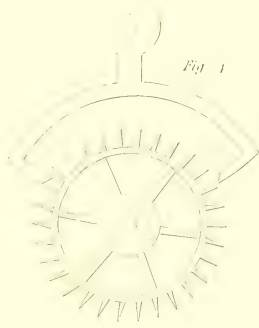
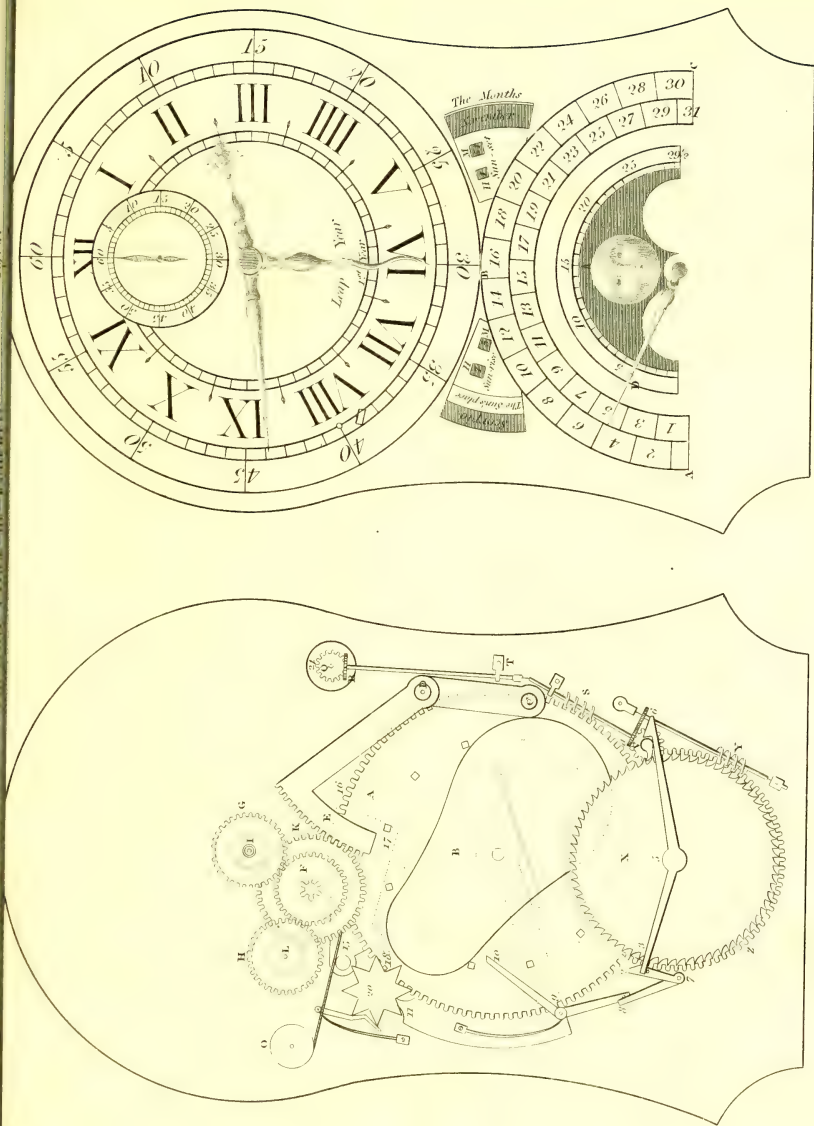


Fig. 4.





*Striking Part
with one Wheel
and one Pinion.*

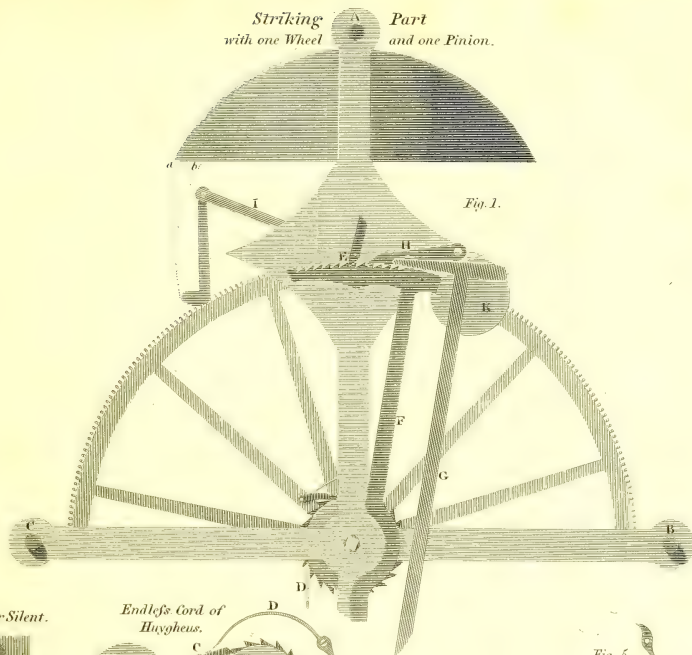


Fig. 1.

Strike or Silent.

*Endless Cord of
Huyghens.*

Forcing Spring.

Fig. 5.

French forcing spring.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 6.

Bolt & Shutter.

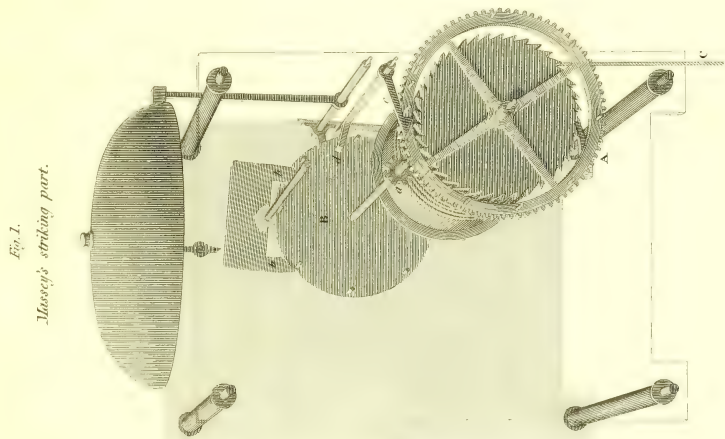


Fig. 1.
Massey's striking part.

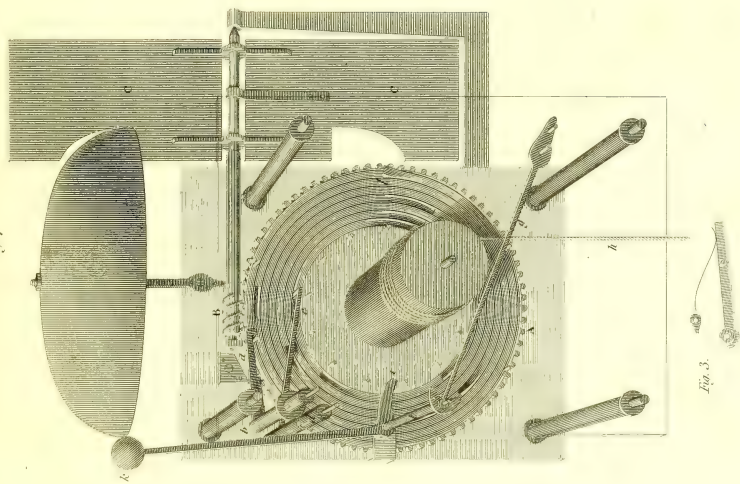


Fig. 2.
Prior's striking part.

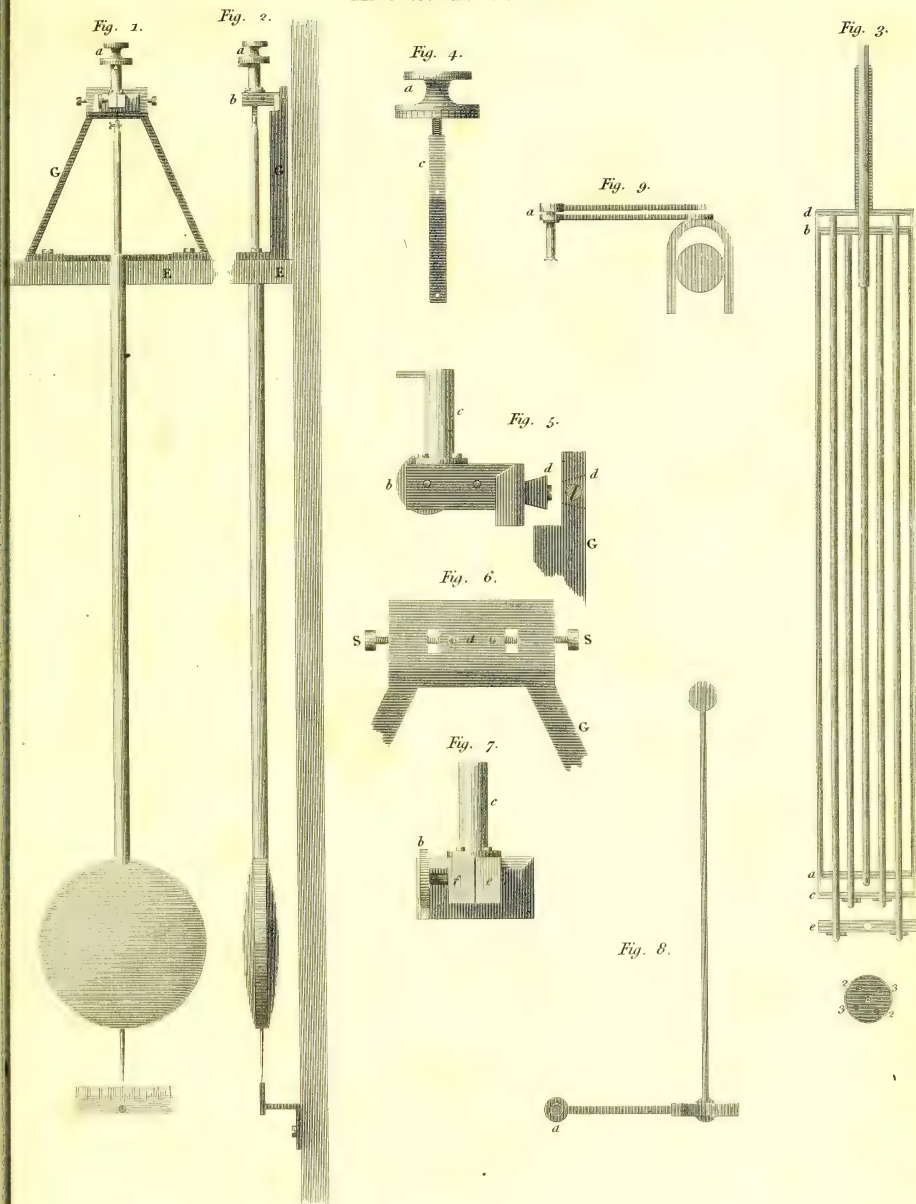


Fig. 3.

Published at the direction of the Longman, Hurst, Rees, Orme and Brown, Distempered Press.

Longman, Hurst, Rees, Orme and Brown, Distempered Press.

TROUGHTON'S PENDULUM.



COMPENSATION CURBS.

PLATE XVIII.

Fig. 1.

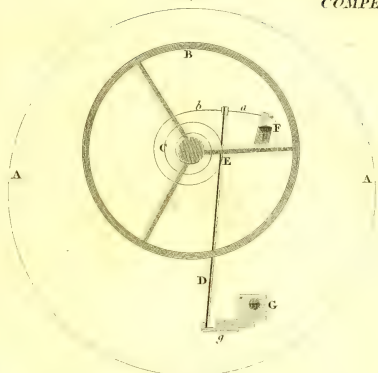


Fig. 2.

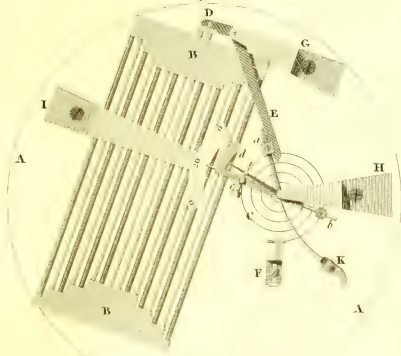


Fig. 7.

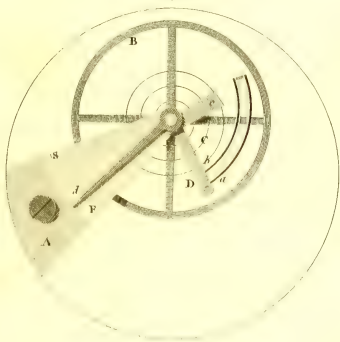


Fig. 3.

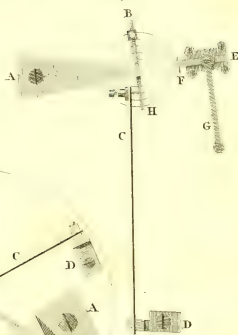


Fig. 4.

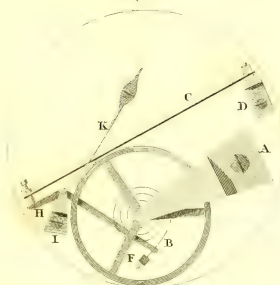


Fig. 5.

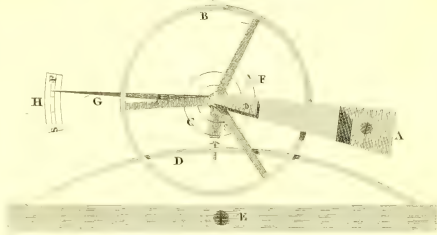
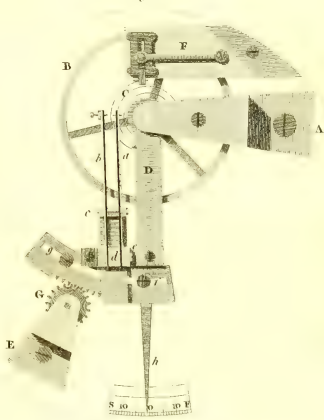


Fig. 6.



HOROLOGY. COMPENSATION BALANCES.

PLATE XXIX.

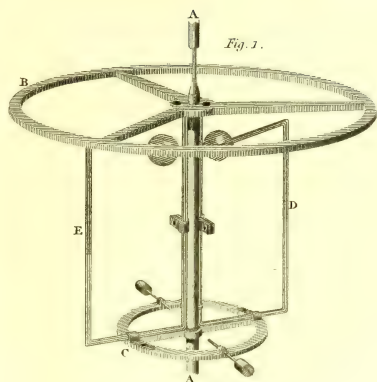


Fig. 1.

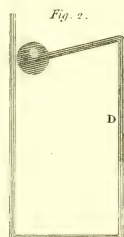


Fig. 2.

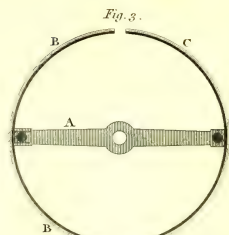


Fig. 3.

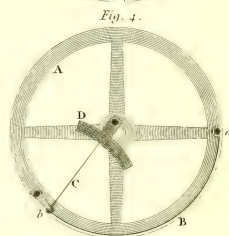


Fig. 4.

Fig. 6.

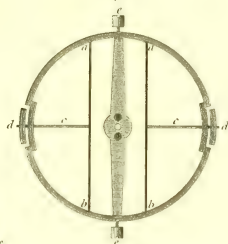


Fig. 7.

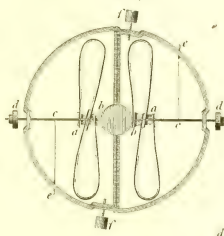


Fig. 5.

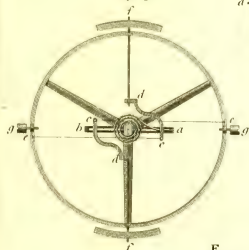


Fig. 8.

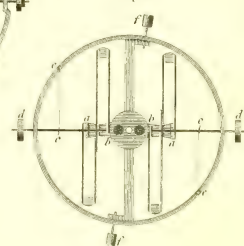


Fig. 11.

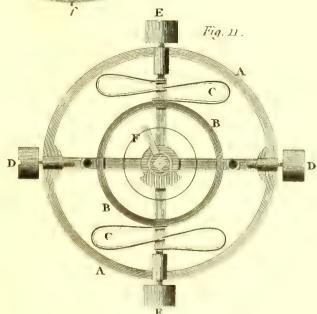


Fig. 9.

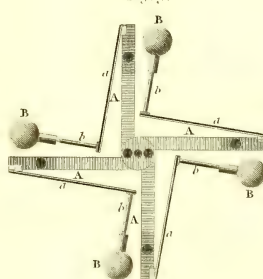
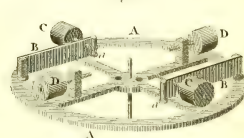


Fig. 10.



COMPENSATION CURBS AND BALANCES.

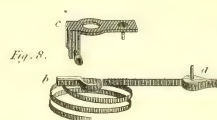
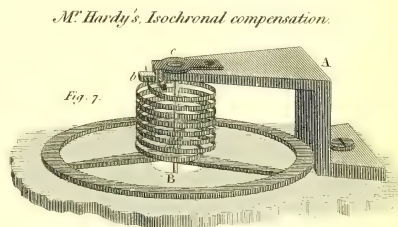
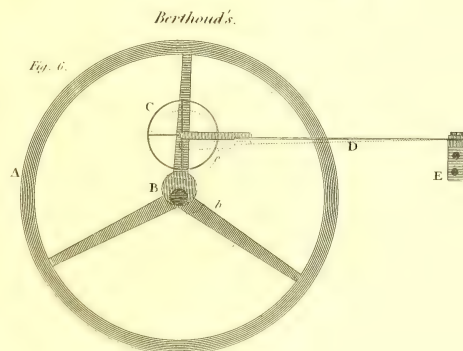
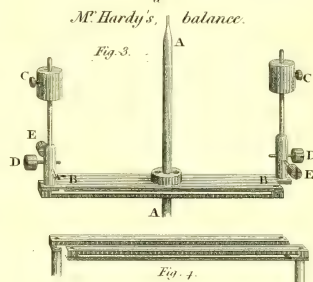
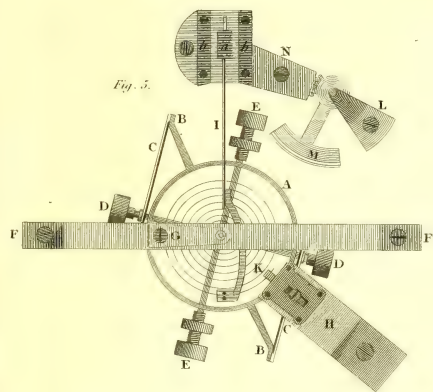
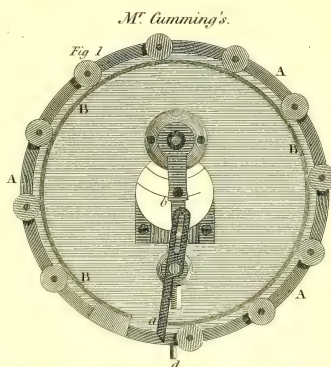
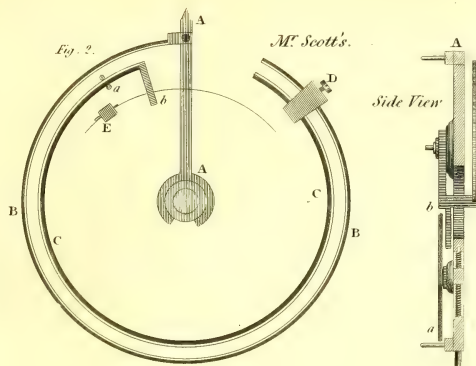


Fig. 1.

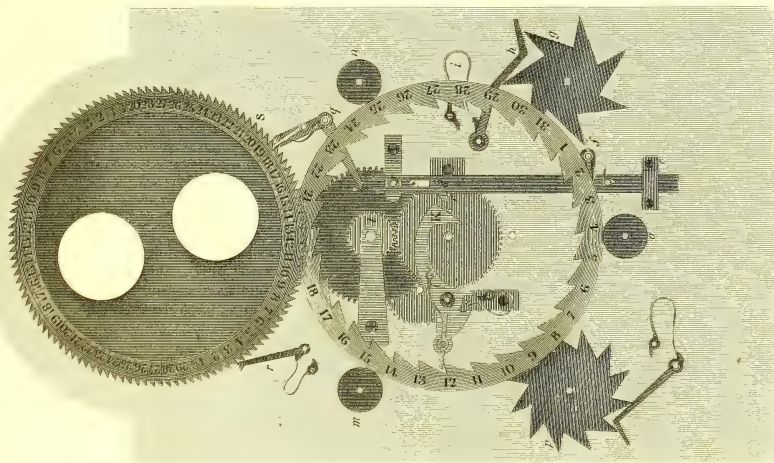
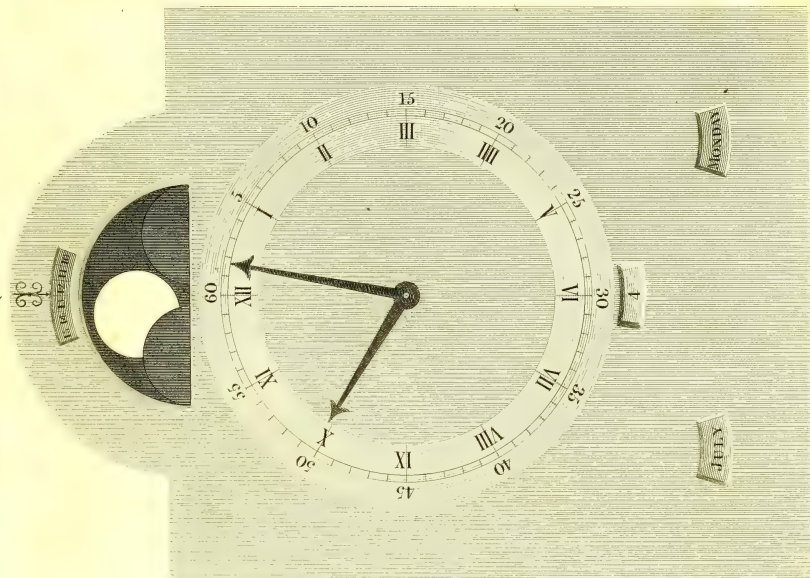


Fig. 2.



New DIAL work of a small spring Clock shewing the Phenomena of the Moon, &c.

Fig. 2.

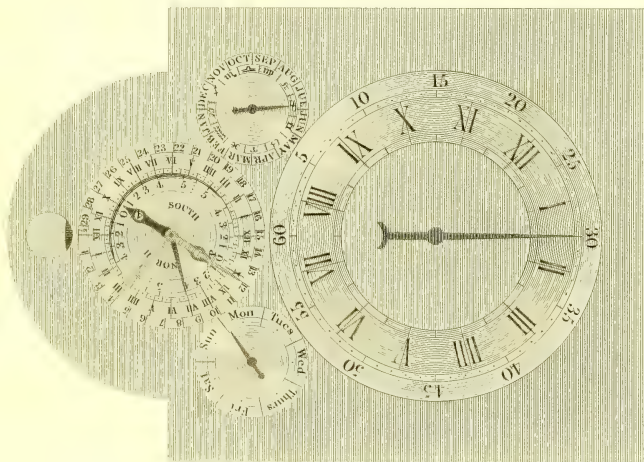
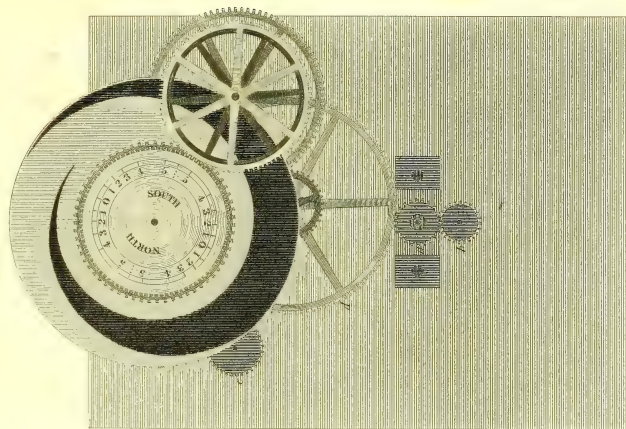


Fig. 1.



Dial Work.

Fig. 1.

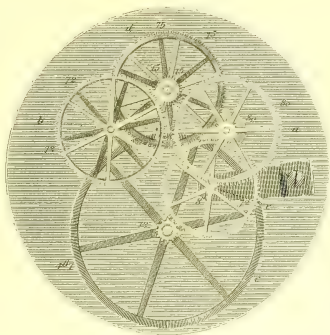


Fig. 2.

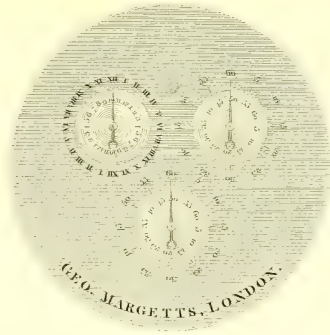


Fig. 3.

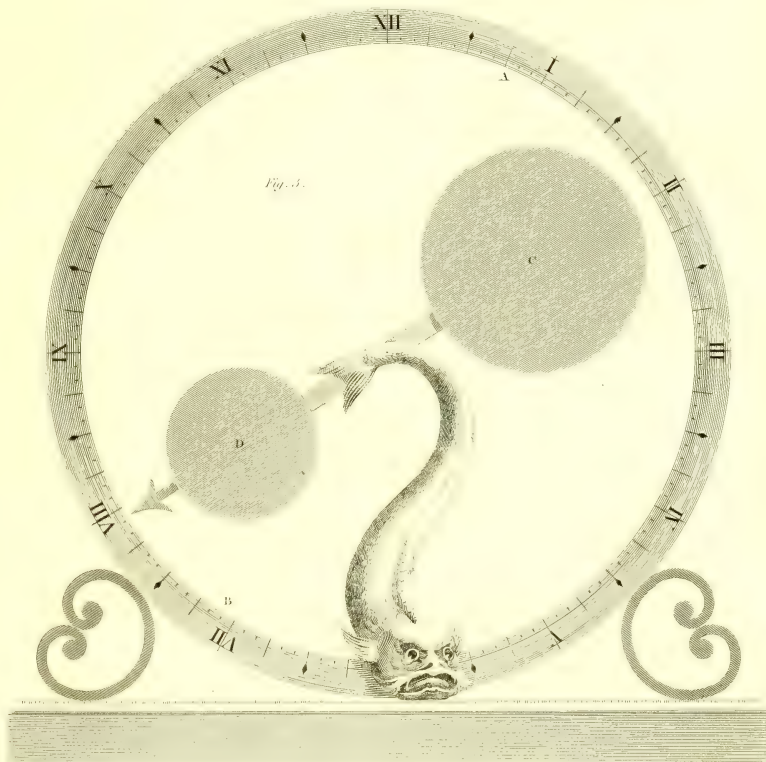


Fig. 1.

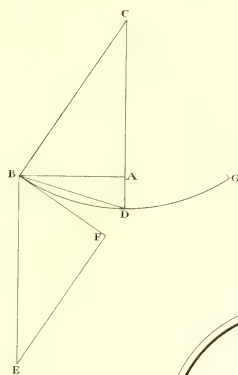


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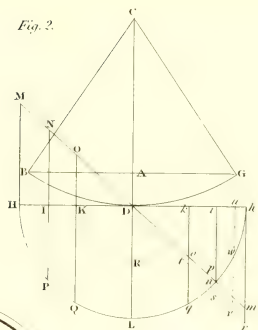


Fig. 3.

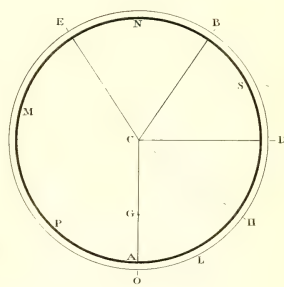
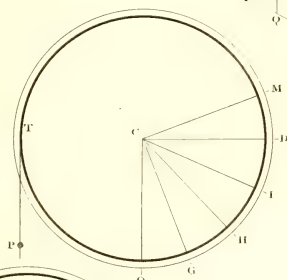
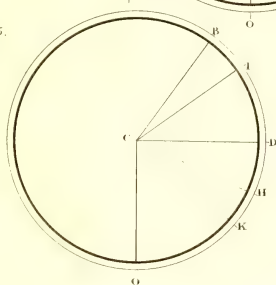


Fig. 4.

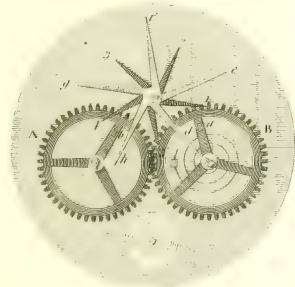


M. Atwood's Theory of the Balance.

Fig. 5.



D'Hook's & Du Tertres, Fig. 6.



Crown Wheel.

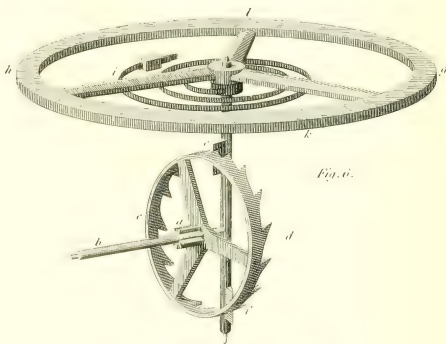
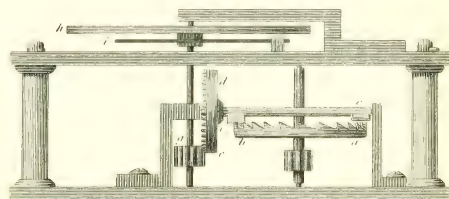


Fig. 6.

Huygens's.

Fig. 7.



Escapements.

Fig. 1.
Sully's.

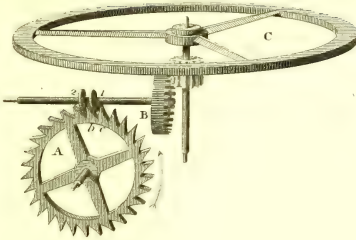


Fig. 2.
Graham's Horizontal.

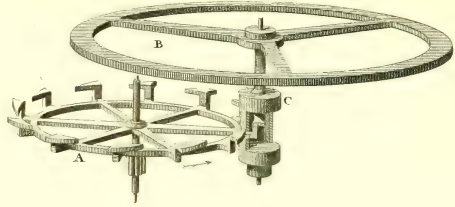


Fig. 3.
Anchor Escapement.

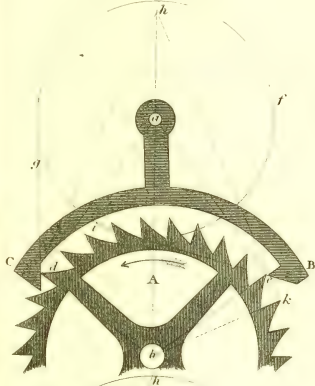


Fig. 5.

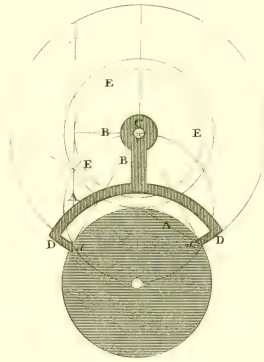


Fig. 7.
Bennet's Dead Beat.

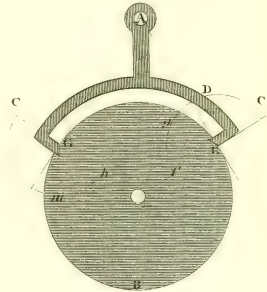


Fig. 6.
Grignon's Dead Beat.

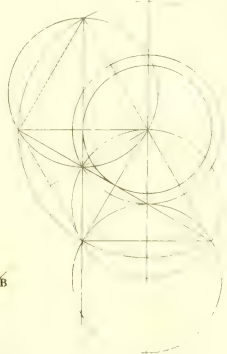


Fig. 4.
Graham's Dead Beat.

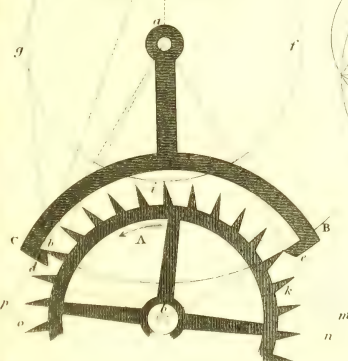
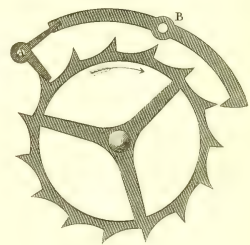
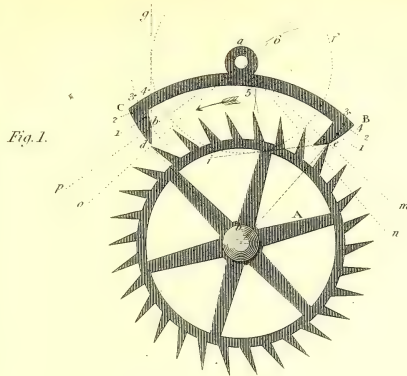


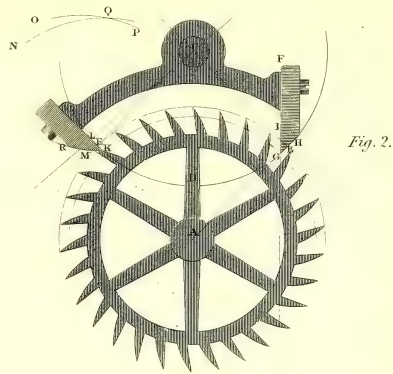
Fig. 8.
Thiout's.



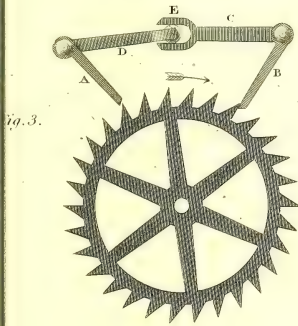
Berthoud's.



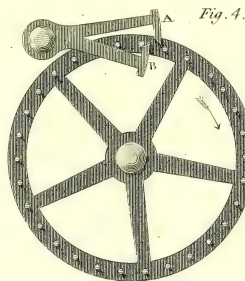
Smcaton's.



De Bethune's.



Amant's.



Harrison's.

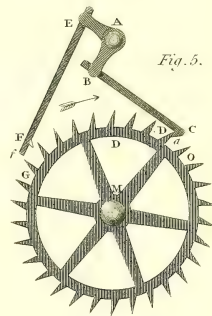
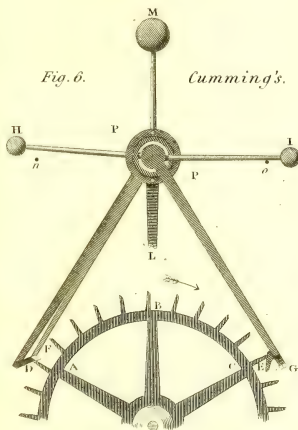


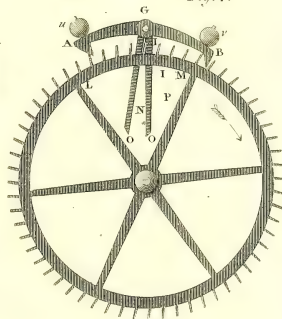
Fig. 6.

Cumming's.



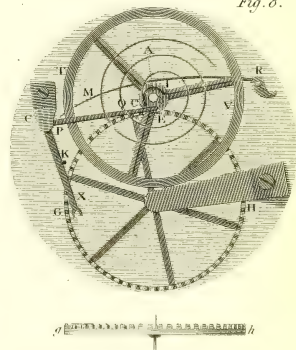
Mudge's.

Fig. 7.



Peter Le Roy's.

Fig. 8.



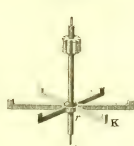


HORLOGY.

FRENCH ESCAPEMENTS. for Chronometers

PLATE XXXIV.

Fig. 1.



Peter le Roy's Improved

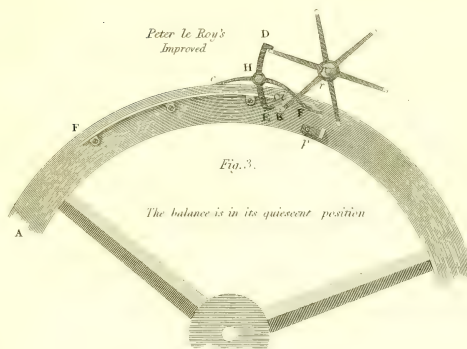


Fig. 3.

The balance is in its quiescent position

Fig. 2.



Berthoud's Detached

Fig. 4.

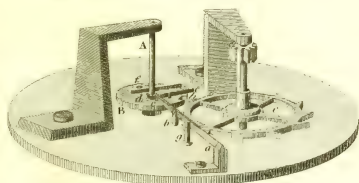


Fig. 6. *Berthoud's without a Spring*

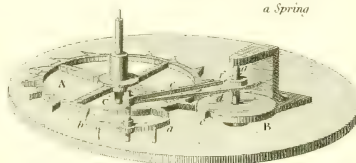


Fig. 5.

Berthoud's Improved No. 60.

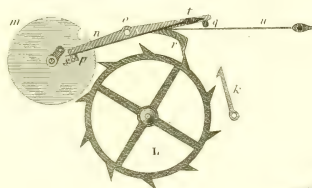


Fig. 7.

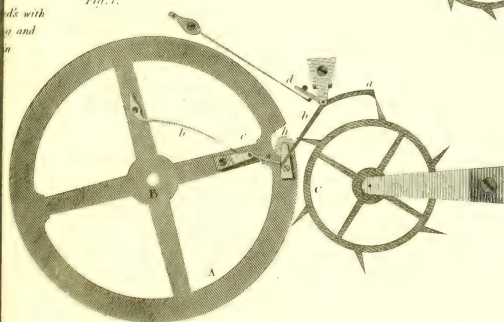
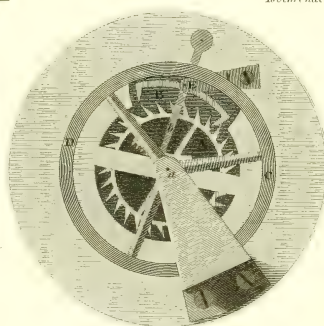
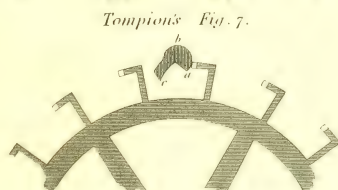
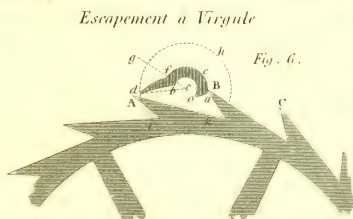
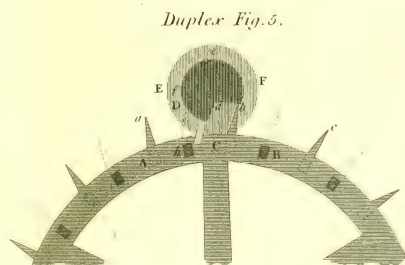
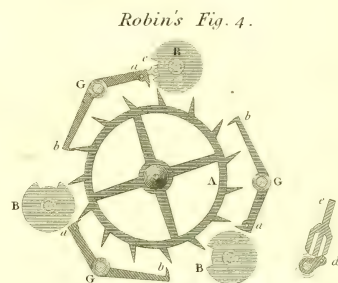
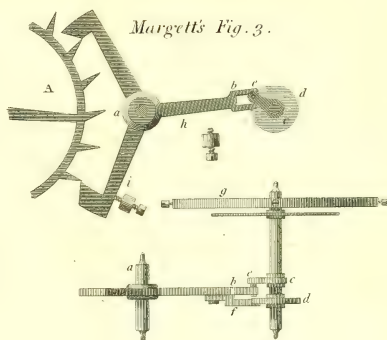
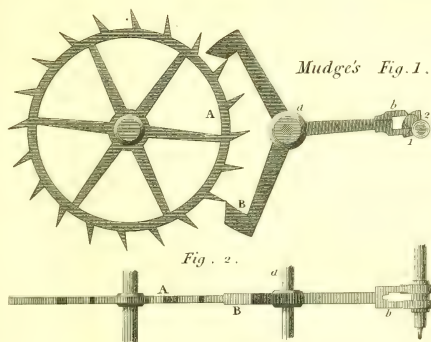


Fig. 8.

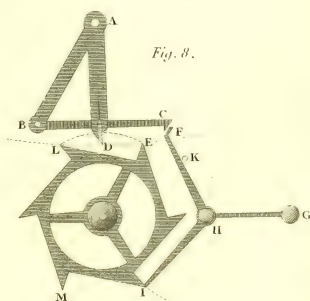
Berthoud's Isochronal



ESCAPEMENTS.



Free for a Pendulum



ESCAPEMENTS &c.

Fig. 1.
Berthoud's.

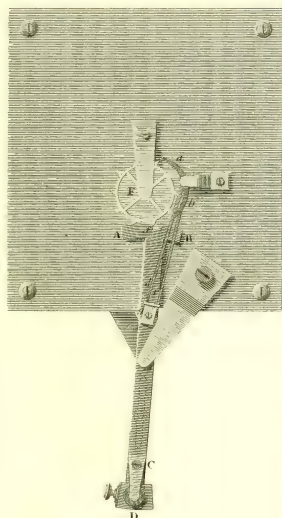


Fig. 2.

Nicholson's.

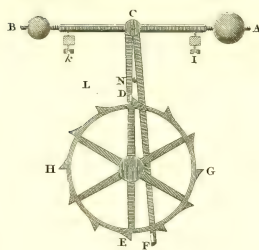


Fig. 3.

Mafsey's.

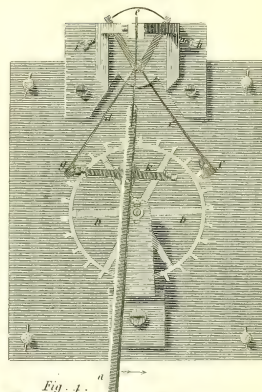


Fig. 3.

Goodrich's.

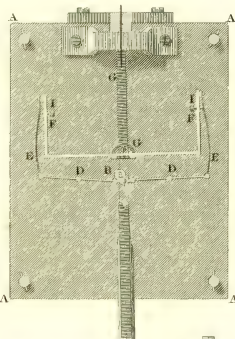


Fig. 4.

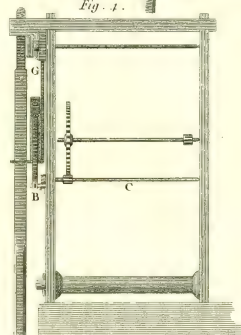


Fig. 6.

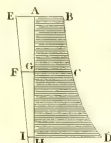
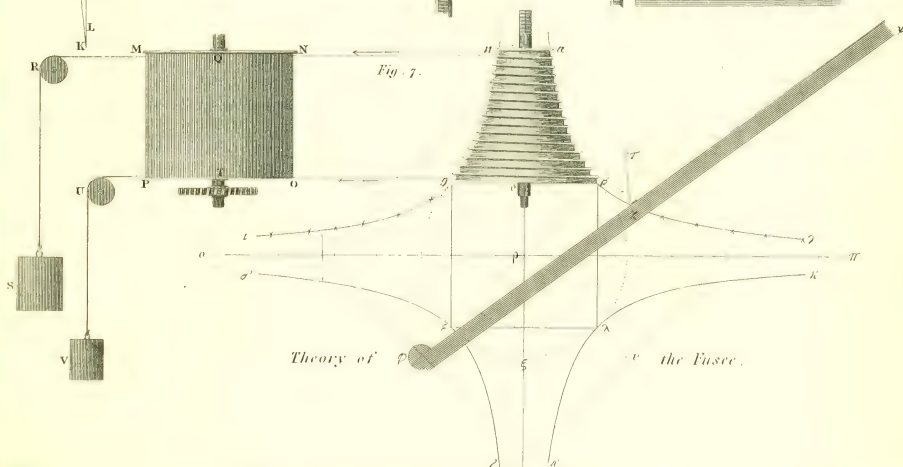


Fig. 7.



Theory of

the Fusee.

HOROLOGY.

PLATE XXXVII

FUSEE ENGINE acting by an inclined Plane.

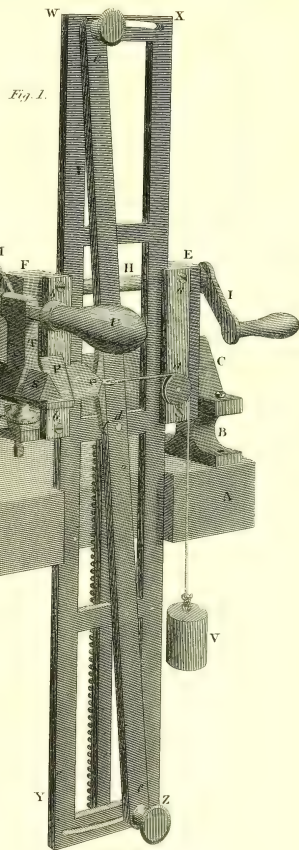


Fig. 1.



Fig. 2.

Fig. 3.

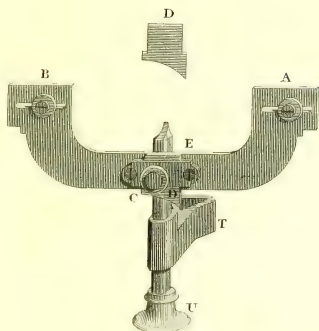


Fig. 7.



Fig. 6.



Fig. 5.

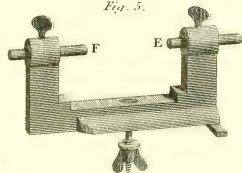
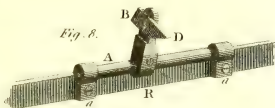
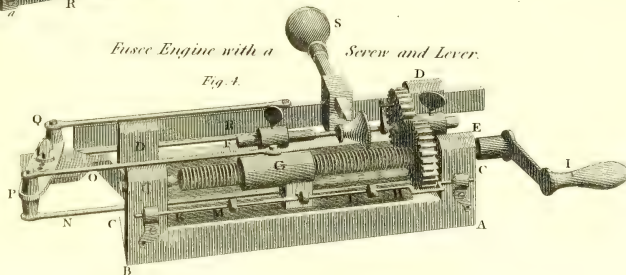


Fig. 8.



Fusee Engine with a Screw and Lever.

Fig. 4.

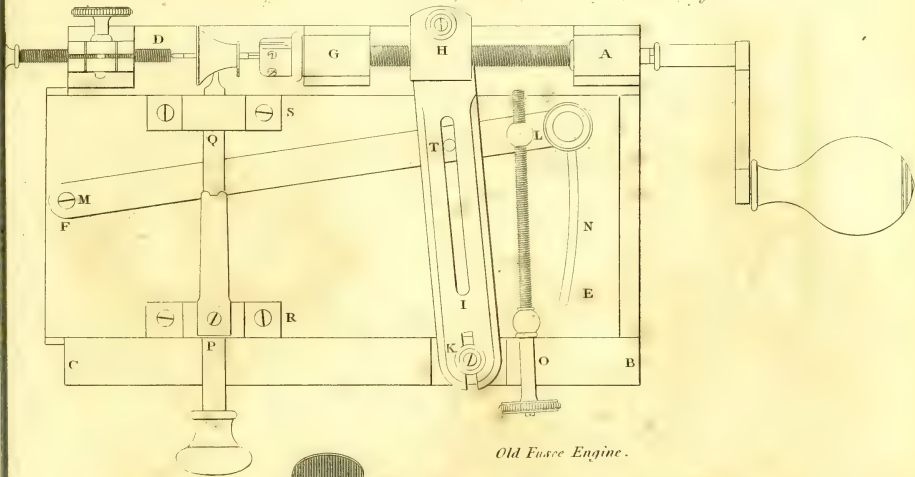


HOROLGY. FUSEE ENGINES and FUSEE FRAME.

PLATE XXXVIII.

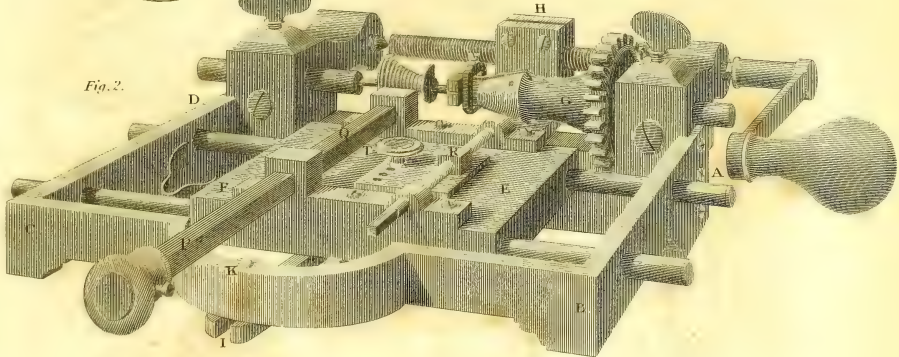
Common Fusee Engine.

Fig. 1.



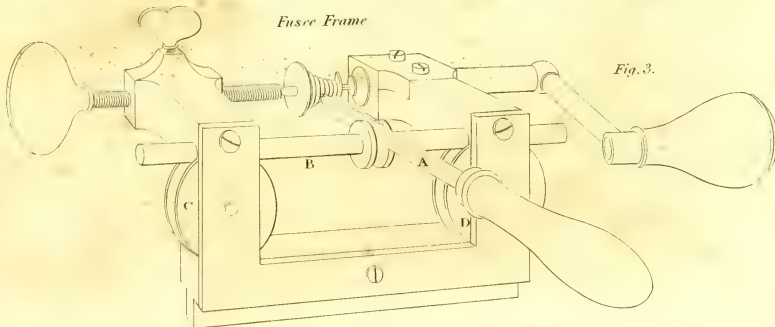
Old Fusee Engine.

Fig. 2.



Fusee Frame

Fig. 3.

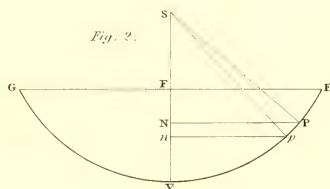
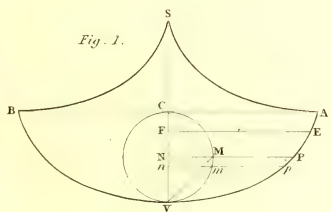




H O R O L O G Y .

PLATE XXXIX.

COMPENSATING PENDULUMS.

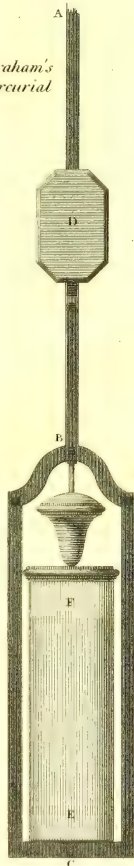


J. Le Roy's



Fig. 8.

*Graham's
Mercurial*



Regnauld's.
Fig. 5.

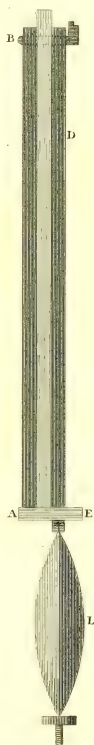
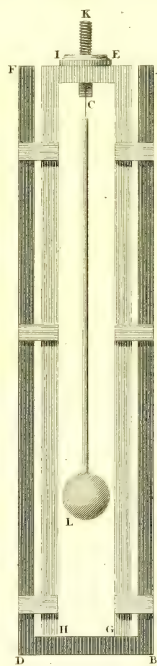
*Deparcieux's*

Fig. 6.

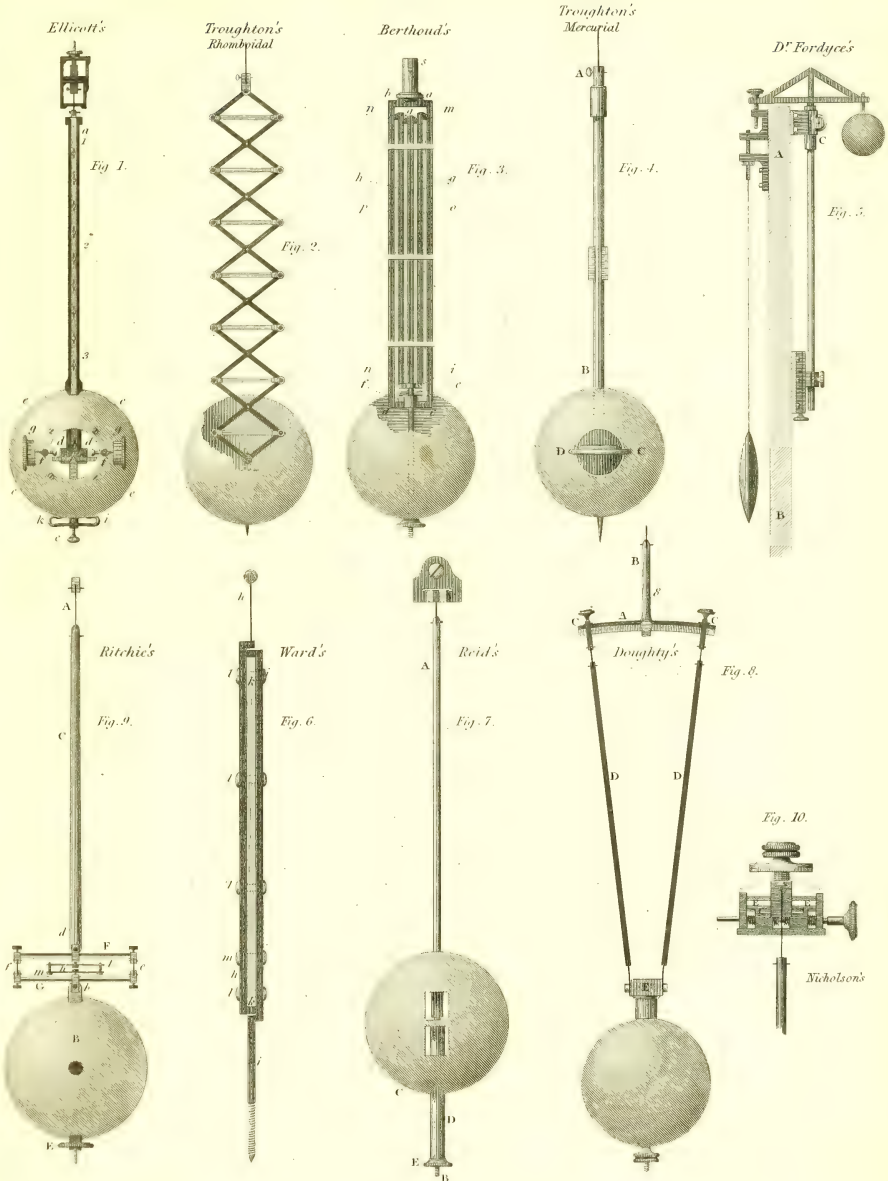


Arceuthobium Jun? delin.

Published as the Act directs, 1835, by Longman, Hurst, Rees, Orme & Co. Paternoster Row.

Lowry sculp.

COMPENSATING PENDULUMS.





HOROLOGY. REMONTAIRE ESCAPEMENTS.

PLATE XII.

Fig. 1. Haley's.

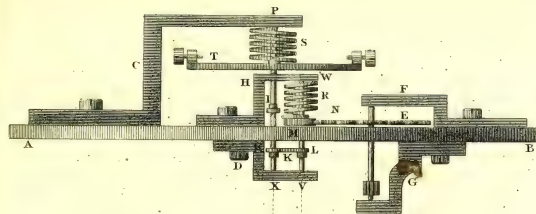


Fig. 3.

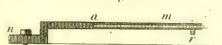


Fig. 2.

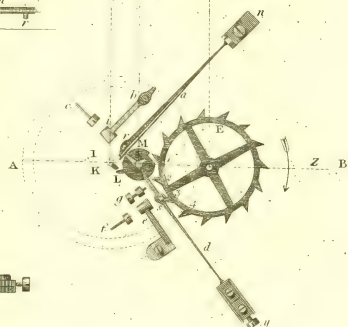


Fig. 4.

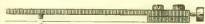


Fig. 6.

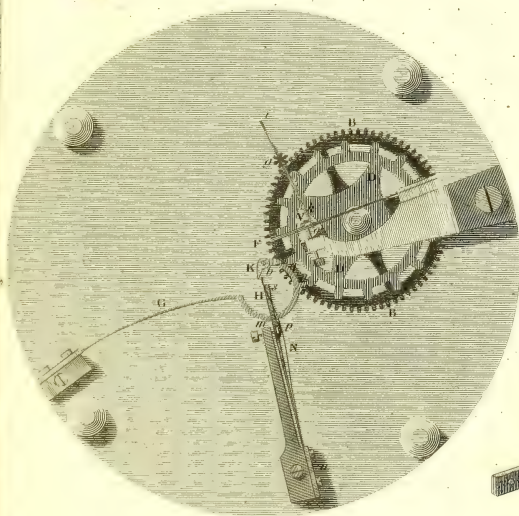


Fig. 7. Hardy's.

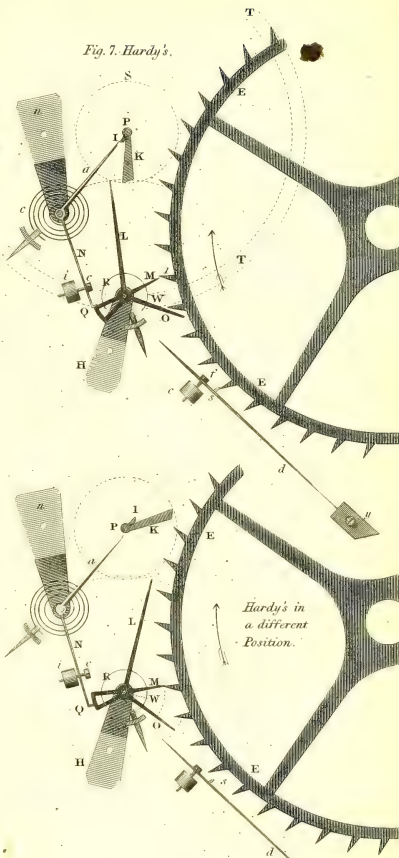
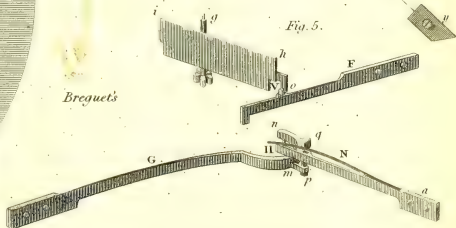
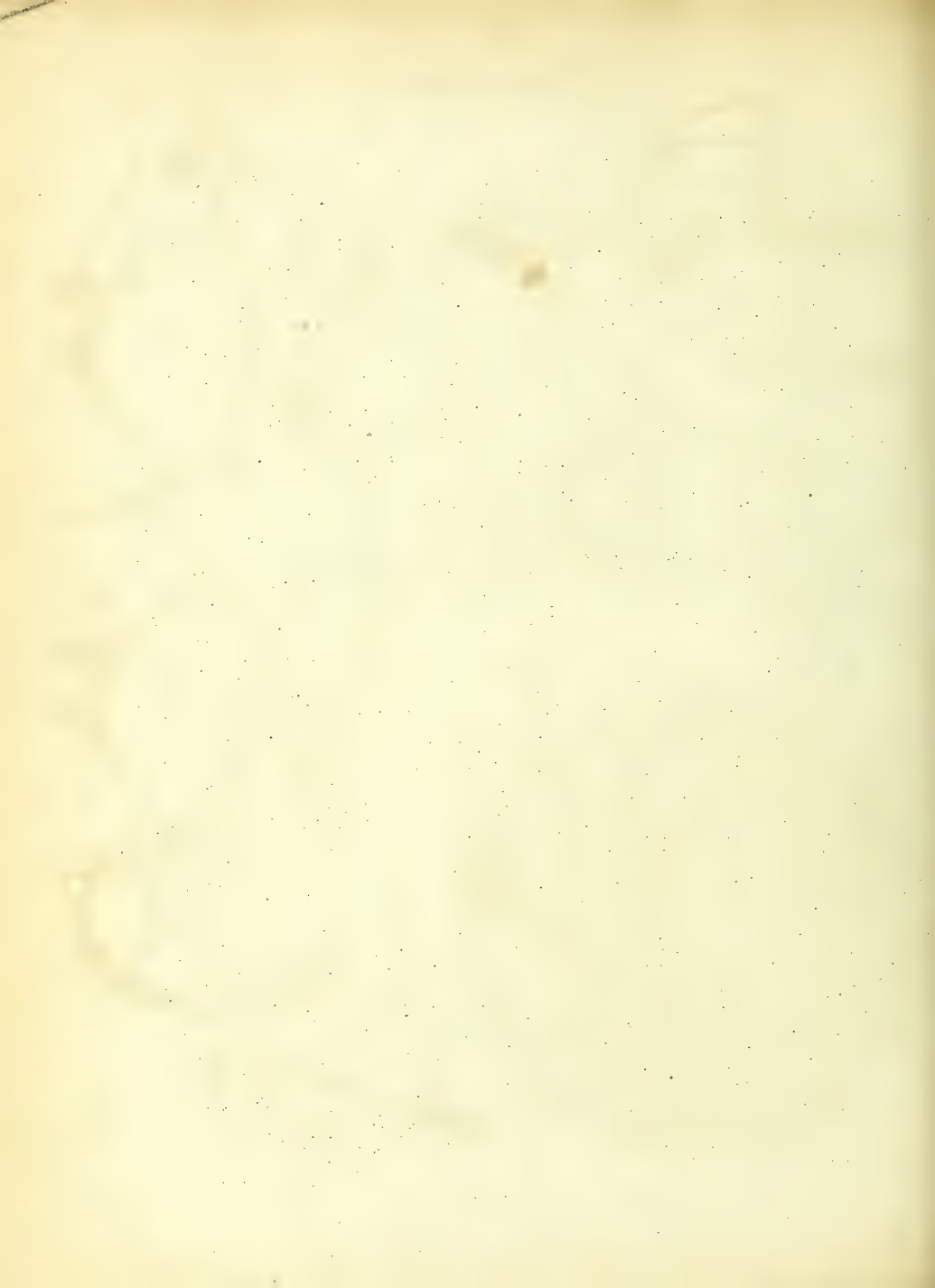


Fig. 5.

Breguet's





Remontoire Escapements

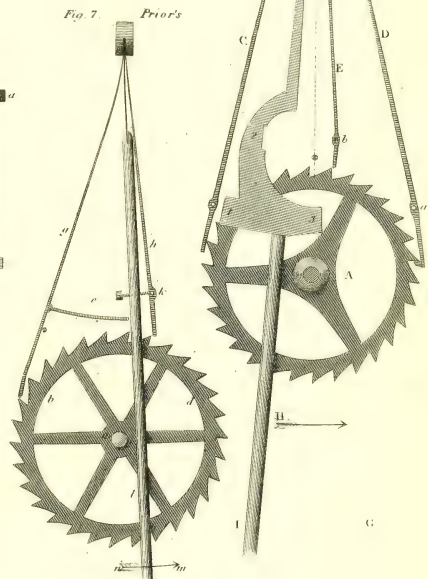
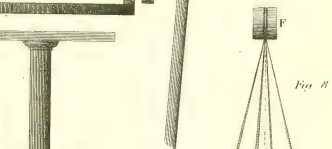
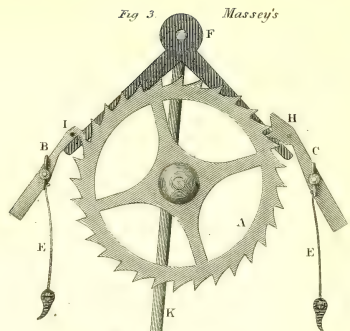
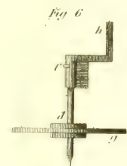
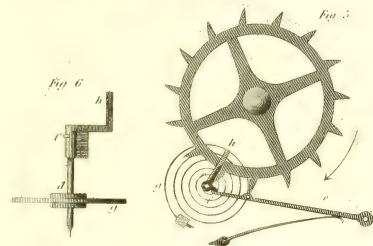
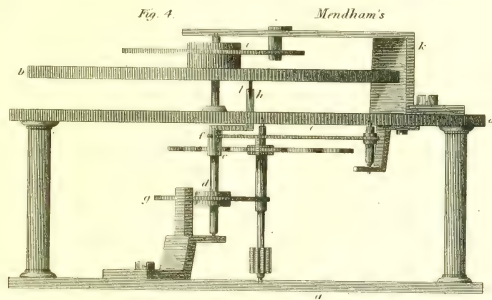
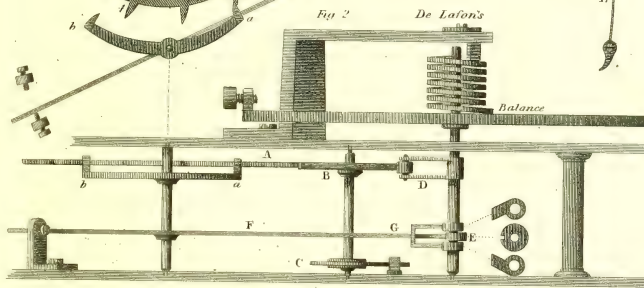
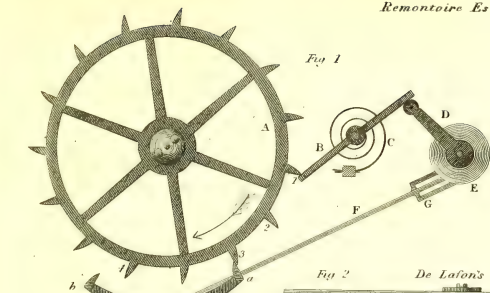
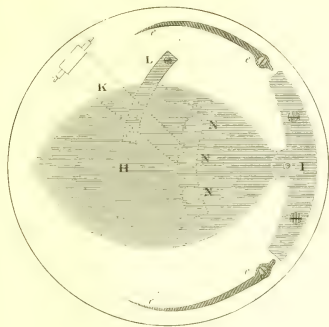


Fig. 1.

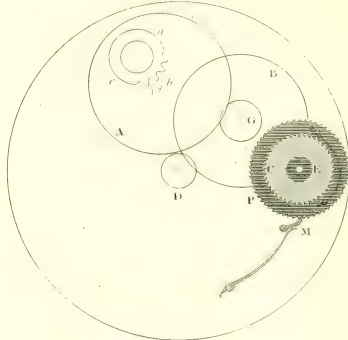


Recordon's Renovator.

Fig. 3.



Fig. 2.



WATCH with MUSIC.

Fig. 4.

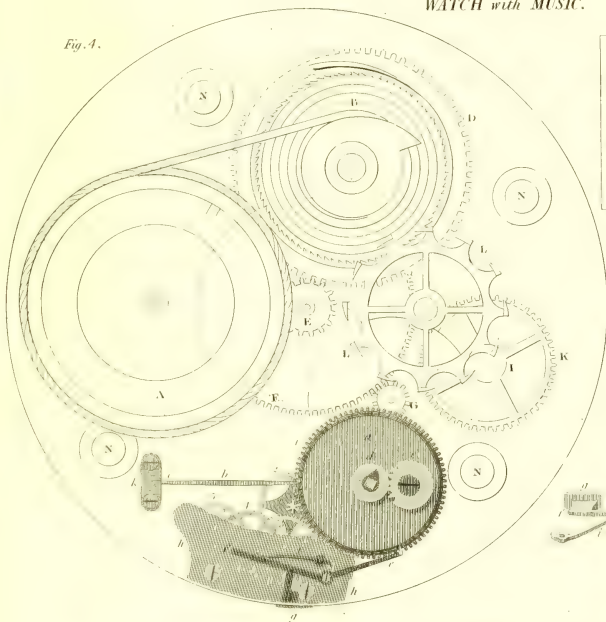


Fig. 7.

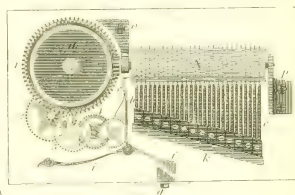


Fig. 8.



Fig. 9.

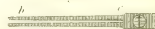


Fig. 6.

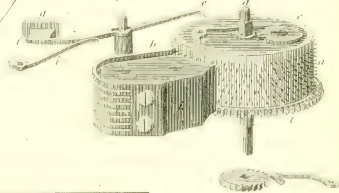


Fig. 5.

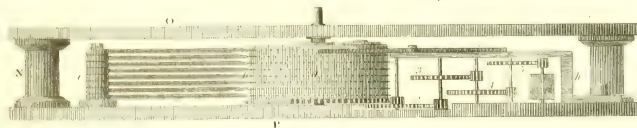


Fig. 7.

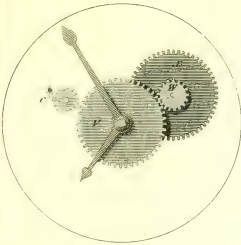
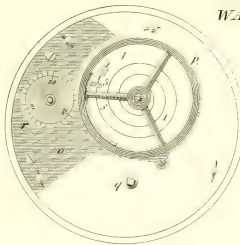


Fig. 5.



COMMON
WATCH

Fig. 1.

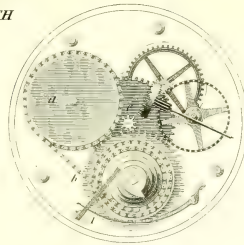


Fig. 3.

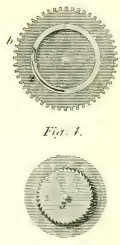


Fig. 4.



Fig. 8.

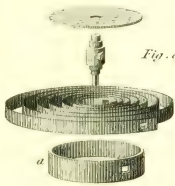


Fig. 6.

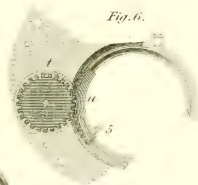


Fig. 2.

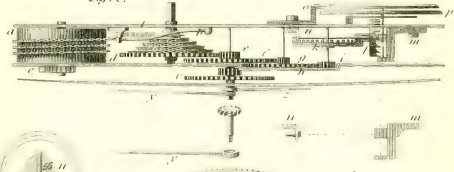
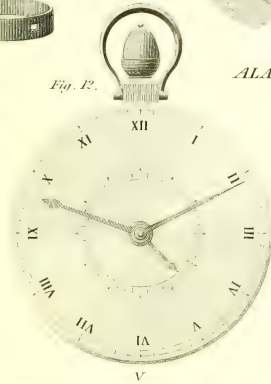


Fig. 12.



ALARUM

Fig. 9.

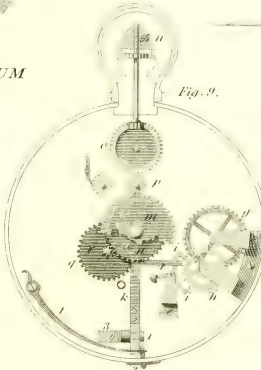


Fig. 10.

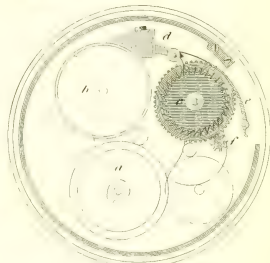


Fig. 13.



Fig. 11.

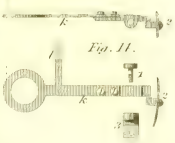


Fig. 14.



Fig. 15.



ROLLING WATCH

Fig. 16.

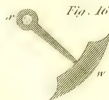


Fig. 17.

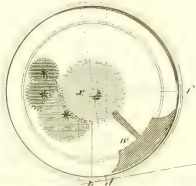
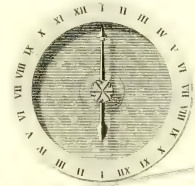
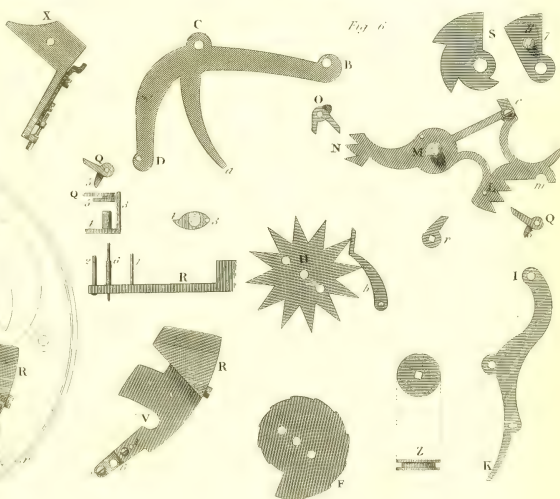
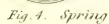


Fig. 18.





HOROLOGY.

REPEATING and ALARM WATCHES.

PLATE XVI.

Fig. 1.

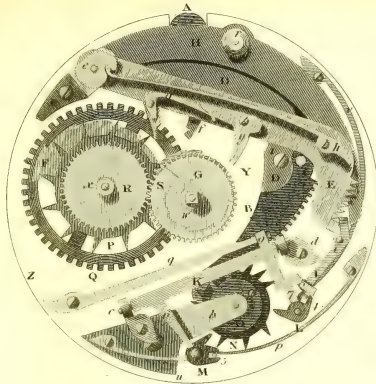


Fig. 5.



Fig. 2.

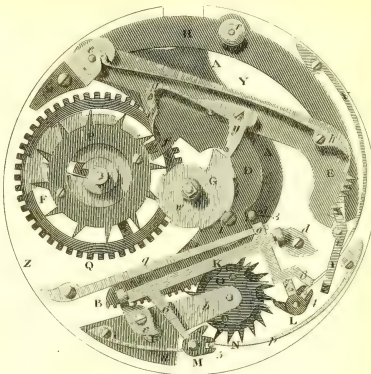


Fig. 7.

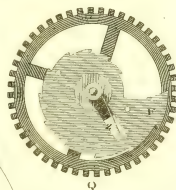


Fig. 3.

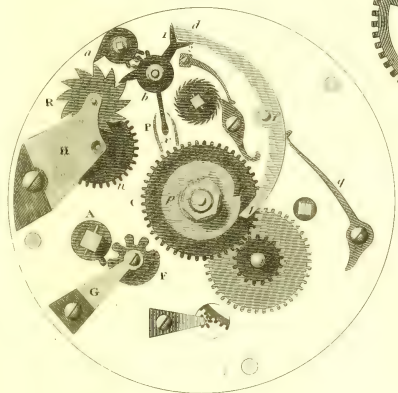


Fig. 3.

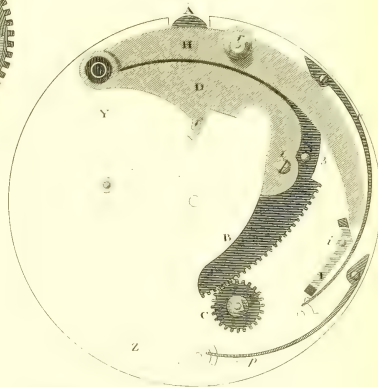


Fig. 6.

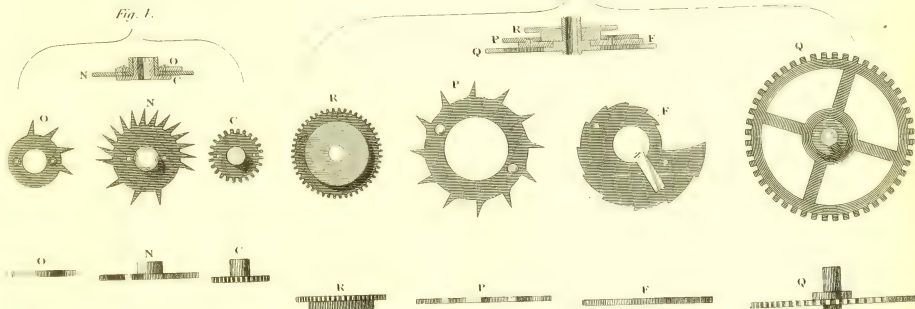


PLATE XLVII

Fig. 1

Fig. 6.

Calliper

Fig. 8

M

Fig. 8

N

1

97

